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PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

\* \* \* \* \* Welcome to STN International \* \* \* \* \*

NEWS 1 Web Page for STN Seminar Schedule - N. America  
NEWS 2 DEC 01 ChemPort single article sales feature unavailable  
NEWS 3 APR 03 CAS coverage of exemplified prophetic substances  
enhanced  
NEWS 4 APR 07 STN is raising the limits on saved answers  
NEWS 5 APR 24 CA/CAPLUS now has more comprehensive patent assignee  
information  
NEWS 6 APR 26 USPATFULL and USPAT2 enhanced with patent  
assignment/reassignment information  
NEWS 7 APR 28 CAS patent authority coverage expanded  
NEWS 8 APR 28 ENCOMPLIT/ENCOMPLIT2 search fields enhanced  
NEWS 9 APR 28 Limits doubled for structure searching in CAS  
REGISTRY  
NEWS 10 MAY 08 STN Express, Version 8.4, now available  
NEWS 11 MAY 11 STN on the Web enhanced  
NEWS 12 MAY 11 BEILSTEIN substance information now available on  
STN Easy  
NEWS 13 MAY 14 DGENE, PCTGEN and USGENE enhanced with increased  
limits for exact sequence match searches and  
introduction of free HIT display format  
NEWS 14 MAY 15 INPADOCDB and INPAFAMDB enhanced with Chinese legal  
status data  
NEWS 15 MAY 28 CAS databases on STN enhanced with NANO super role in  
records back to 1992  
NEWS 16 JUN 01 CAS REGISTRY Source of Registration (SR) searching  
enhanced on STN  
NEWS 17 JUN 26 NUTRACEUT and PHARMAML no longer updated  
NEWS 18 JUN 29 IMSCOPROFILE now reloaded monthly  
NEWS 19 JUN 29 EPFULL adds SLART to AB, MCLM, and TI fields  
NEWS EXPRESS MAY 26 09 CURRENT WINDOWS VERSION IS V8.4,  
AND CURRENT DISCOVER FILE IS DATED 06 APRIL 2009.  
NEWS HOURS STN Operating Hours Plus Help Desk Availability  
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Enter NEWS followed by the item number or name to see news on that  
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\*\*\*\*\* STN Columbus \*\*\*\*\*

FILE 'HOME' ENTERED AT 17:34:05 ON 29 JUN 2009

=> file reg		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.22	0.22

FILE 'REGISTRY' ENTERED AT 17:34:14 ON 29 JUN 2009  
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STRUCTURE FILE UPDATES: 28 JUN 2009 HIGHEST RN 1160218-33-6  
 DICTIONARY FILE UPDATES: 28 JUN 2009 HIGHEST RN 1160218-33-6

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 9, 2009.

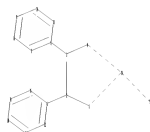
Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stdoc/properties.html>

=>

Uploading C:\Program Files\Stnexp\Queries\10594744\Struc 2.str



```

chain nodes :
19
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 18
chain bonds :
1-5 2-6 18-19
ring bonds :
1-2 1-4 2-3 3-18 4-18 5-7 5-11 6-12 6-16 7-8 8-9 9-10 10-11 12-13
13-14 14-15 15-16
exact/norm bonds :
1-2 1-4 1-5 2-3 2-6 3-18 4-18 18-19
normalized bonds :
5-7 5-11 6-12 6-16 7-8 8-9 9-10 10-11 12-13 13-14 14-15 15-16

```

G1:Ir,Rh,Ru

Match level :

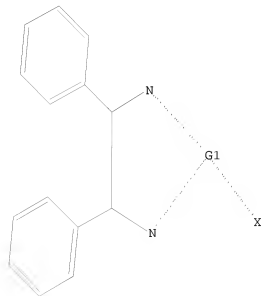
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom  
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 18:Atom 19:CLASS

L1 STRUCTURE UPLOADED

=> d

L1 HAS NO ANSWERS

L1 STR



G1 Ir,Rh,Ru

Structure attributes must be viewed using STN Express query preparation.

=> l1

SAMPLE SEARCH INITIATED 17:34:40 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 112 TO ITERATE

100.0% PROCESSED 112 ITERATIONS

23 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*

BATCH \*\*COMPLETE\*\*

PROJECTED ITERATIONS: 1606 TO 2874

PROJECTED ANSWERS: 173 TO 747

L2 23 SEA SSS SAM L1

=> l1 full

FULL SEARCH INITIATED 17:34:45 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 2455 TO ITERATE

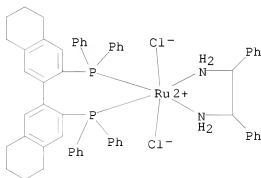
100.0% PROCESSED 2455 ITERATIONS  
SEARCH TIME: 00.00.01

461 ANSWERS

L3 461 SEA SSS FUL L1

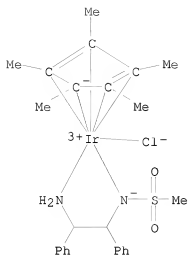
=> d scan

L3 461 ANSWERS REGISTRY COPYRIGHT 2009 ACS on STN  
IN INDEX NAME NOT YET ASSIGNED  
MF C58 H56 Cl2 N2 P2 Ru  
CI CCS



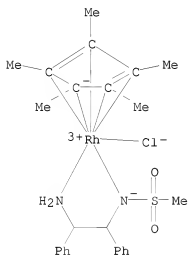
HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L3 461 ANSWERS REGISTRY COPYRIGHT 2009 ACS on STN  
IN Iridium, [N-[(1S,2S)-2-(amino-κN)-1,2-diphenylethyl]methanesulfonamidato-κN]chloro[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]-, stereoisomer  
MF C25 H32 Cl Ir N2 O2 S  
CI CCS



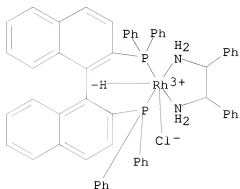
HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L3 461 ANSWERS REGISTRY COPYRIGHT 2009 ACS on STN  
 IN Rhodium, [N-[(1S,2S)-2-(amino-kN)-1,2-diphenylethyl]methanesulfonamidato-kN]chloro[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]-  
 MF C25 H32 Cl N2 O2 Rh S  
 CI CCS



HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

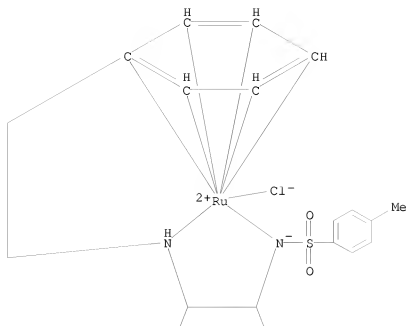
L3 461 ANSWERS REGISTRY COPYRIGHT 2009 ACS on STN  
 IN Rhodium(1+), [1,1'-(1R)-[1,1'-binaphthalene]-2,2'-diylbis[1,1-diphenylphosphine-κP]]chloro[(1R,2R)-1,2-diphenyl-1,2-ethanediamine-κN1,κN2]hydro-, (OC-6-43)-  
 MF C58 H49 Cl N2 P2 Rh  
 CI CCS, COM



HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L3 461 ANSWERS REGISTRY COPYRIGHT 2009 ACS on STN  
 IN Ruthenium, chloro[N-[(1R,2R)-1,2-diphenyl-2-[[2-(η6-phenyl)ethyl]amino-κN]ethyl]-4-methylbenzenesulfonamido-κN]-  
 MF C29 H29 Cl N2 O2 Ru S  
 CI CCS

PAGE 1-A



PAGE 2-A

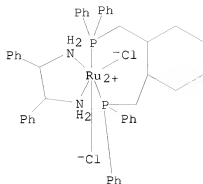


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L3 461 ANSWERS REGISTRY COPYRIGHT 2009 ACS on STN  
 IN Ruthenium, dichloro[1,1'-[(1S,2S)-1,2-cyclohexanediylbis(methylene)]bis[1,1-diphenylphosphine-κP]][(1R,2R)-1,2-diphenyl-1,2-ethanediamine-κN1,κN2]-, (OC-6-32)-  
 MF C46 H50 Cl2 N2 P2 Ru  
 CI CCS





\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

186.36

186.58

FILE 'CAPLUS' ENTERED AT 17:35:42 ON 29 JUN 2009

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FILE COVERS 1907 - 29 Jun 2009 VOL 151 ISS 1

FILE LAST UPDATED: 28 Jun 2009 (20090628/ED)

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Apr 2009

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Apr 2009

Caplus now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2009.

CAS Information Use Policies apply and are available at:

<http://www.cas.org/legal/infopolicy.html>

This file contains CAS Registry Numbers for easy and accurate substance identification.

=&gt; 13

L4 337 L3

=&gt; d ibib abs hitstr 337

L4 ANSWER 337 OF 337 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1988:642931 CAPLUS

DOCUMENT NUMBER: 109:242931

ORIGINAL REFERENCE NO.: 109:39991a,39994a

TITLE: Chiral metal complexes. 26. Metal complexes of the new stereospecific tetraamine ligand 3R,4R- and 3S,4S-diphenyl-1,6-di(2-pyridyl)-2,5-diazahehexane  
 Fenton, Ronald R.; Vagg, Robert S.; Williams, Peter A.  
 AUTHOR(S): Sch. Chem., Macquarie Univ., 2109, Australia  
 CORPORATE SOURCE: Inorganica Chimica Acta (1988), 148(1), 37-44  
 SOURCE: CODEN: ICHAA3; ISSN: 0020-1693

DOCUMENT TYPE: Journal

LANGUAGE: English

AB (RCH<sub>2</sub>NHCHPh)<sub>2</sub> (R = 2-pyridyl) (picstien), based on stilbenediamine, was prepared in its racemic and enantiomeric forms. R,R-Picstien coordinates to Co(III) to give A-β-[Co(R,R-picstien)Cl<sub>2</sub>].X.H<sub>2</sub>O (X = Cl, ClO<sub>4</sub>) stereospecifically; the complexes were characterized by NMR and chiroptical properties. The chloride donors in this cation undergo substitution by NO<sub>2</sub><sup>-</sup> or C<sub>2</sub>O<sub>4</sub><sup>2-</sup> with full retention of its A-β topol. A Rh(III) analog of the dichloro complex also was isolated, and this has the same stereochem. The S,S antipode of the ligand was used to generate corresponding enantiomeric chelate forms.

IT 117802-85-4P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and NMR and CD of)

RN 117802-85-4 CAPLUS

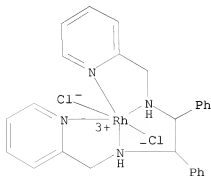
CN Rhodium(1+), dichloro[1,2-diphenyl-N,N'-bis(2-pyridinylmethyl)-1,2-ethanediamine-N,N',N'',N''']-, stereoisomer, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 117802-84-3

CMF C26 H26 Cl2 N4 Rh

CCI CCS



CM 2  
 CRN 14797-73-0  
 CMF C1 O4



=> file reg		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	6.64	193.22
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-0.82	-0.82

FILE 'REGISTRY' ENTERED AT 17:36:49 ON 29 JUN 2009  
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STRUCTURE FILE UPDATES: 28 JUN 2009 HIGHEST RN 1160218-33-6  
 DICTIONARY FILE UPDATES: 28 JUN 2009 HIGHEST RN 1160218-33-6

New CAS Information Use Policies, enter HELP USAGETERMS for details.

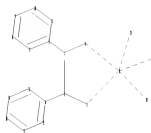
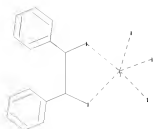
TSCA INFORMATION NOW CURRENT THROUGH January 9, 2009.

Please note that search-term pricing does apply when  
 conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and  
 predicted properties as well as tags indicating availability of  
 experimental property data in the original document. For information  
 on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stdoc/properties.html>

=>  
 Uploading C:\Program Files\Stnexp\Queries\10594744\Struc 3.str



```

chain nodes :
19 20 21
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 18
chain bonds :
1-5 2-6 18-19 18-20 18-21
ring bonds :
1-2 1-4 2-3 3-18 4-18 5-7 5-11 6-12 6-16 7-8 8-9 9-10 10-11 12-13
13-14 14-15 15-16
exact/norm bonds :
1-2 1-4 1-5 2-3 2-6 3-18 4-18 18-19 18-20 18-21
normalized bonds :
5-7 5-11 6-12 6-16 7-8 8-9 9-10 10-11 12-13 13-14 14-15 15-16

```

G1:Ir,Rh,Ru

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom  
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 18:Atom 19:CLASS 20:CLASS  
21:CLASS

L5 STRUCTURE UPLOADED

=> s l5 sub=l3 sss sam

SAMPLE SUBSET SEARCH INITIATED 17:38:05 FILE 'REGISTRY'  
SAMPLE SUBSET SCREEN SEARCH COMPLETED - 23 TO ITERATE

100.0% PROCESSED 23 ITERATIONS 3 ANSWERS  
SEARCH TIME: 00.00.01

PROJECTIONS (WITHIN SPECIFIED SUBSET): ONLINE \*\*COMPLETE\*\*  
PROJECTED ITERATIONS (WITHIN SPECIFIED SUBSET): 173 TO 747  
PROJECTED ANSWERS (WITHIN SPECIFIED SUBSET): 3 TO 163

L6 3 SEA SUB=L3 SSS SAM L5

=> s l5 sub=l3 sss full

FULL SUBSET SEARCH INITIATED 17:38:13 FILE 'REGISTRY'  
FULL SUBSET SCREEN SEARCH COMPLETED - 460 TO ITERATE

100.0% PROCESSED 460 ITERATIONS 30 ANSWERS  
SEARCH TIME: 00.00.01

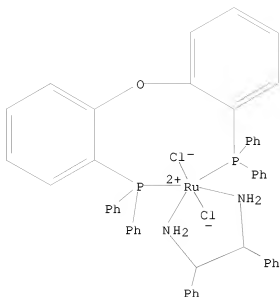
L7 30 SEA SUB=L3 SSS FUL L5

=> l3 not l7

L8 431 L3 NOT L7

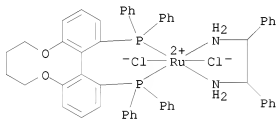
=> d scan

L8 431 ANSWERS REGISTRY COPYRIGHT 2009 ACS on STN  
IN Ruthenium, dichloro[(1R,2R)-1,2-diphenyl-1,2-ethanediamine-  
κN1,κN2][1,1'-(oxydi-2,1-phenylene)bis[1,1-diphenylphosphine-  
κP]]-, (OC-6-13)-  
MF C50 H44 Cl2 N2 O P2 Ru  
CI CCS



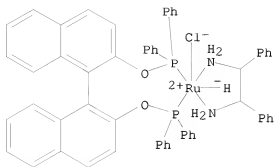
HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L8 431 ANSWERS REGISTRY COPYRIGHT 2009 ACS on STN  
 IN Ruthenium, dichloro(1,2-diphenyl-1,2-ethanediamine-  
 $\kappa N1, \kappa N2$ ) [1,1'-[(14aR)-6,7,8,9-  
 tetrahydrodibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[1,1-diphenylphosphine-  
 $\kappa P$ ]]-, (OC-6-13)-  
 MF C54 H50 Cl2 N2 O2 P2 Ru  
 CI CCS



HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L8 431 ANSWERS REGISTRY COPYRIGHT 2009 ACS on STN  
 IN Ruthenium, [(1R)-[1,1'-binaphthalene]-2,2'-diyl  
 bis(diphenylphosphinite- $\kappa P$ )]chloro[(1R,2R)-1,2-diphenyl-1,2-  
 ethanediamine- $\kappa N, \kappa N'$ ]hydro-, (OC-6-43)- (9Cl)  
 MF C58 H49 Cl N2 O2 P2 Ru  
 CI CCS

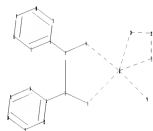
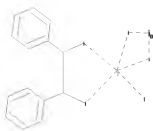


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

=>

Uploading C:\Program Files\Stnexp\Queries\10594744\Struc 4.str



```

chain nodes :
19
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 18 20 21 22
chain bonds :
1-5 2-6 18-19
ring bonds :
1-2 1-4 2-3 3-18 4-18 5-7 5-11 6-12 6-16 7-8 8-9 9-10 10-11 12-13
13-14 14-15 15-16 18-20 18-21 20-22 21-22
exact/norm bonds :
1-2 1-4 1-5 2-3 2-6 3-18 4-18 18-19 18-20 18-21 20-22 21-22
normalized bonds :
5-7 5-11 6-12 6-16 7-8 8-9 9-10 10-11 12-13 13-14 14-15 15-16

```

G1:Ir,Rh,Ru



Match level :

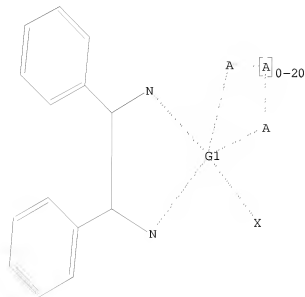
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom  
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 18:Atom 19:CLASS 20:CLASS  
21:CLASS 22:Atom

L9 STRUCTURE UPLOADED

=> d

L9 HAS NO ANSWERS

L9 STR



G1 Ir,Rh,Ru

Structure attributes must be viewed using STN Express query preparation.

=> s 19 sub=13 sss sam

SAMPLE SUBSET SEARCH INITIATED 17:40:59 FILE 'REGISTRY'

SAMPLE SUBSET SCREEN SEARCH COMPLETED - 23 TO ITERATE

100.0% PROCESSED 23 ITERATIONS

19 ANSWERS

SEARCH TIME: 00.00.01

PROJECTIONS (WITHIN SPECIFIED SUBSET):

ONLINE

\*\*COMPLETE\*\*

PROJECTED ITERATIONS (WITHIN SPECIFIED SUBSET):

173 TO 747

PROJECTED ANSWERS (WITHIN SPECIFIED SUBSET):

119 TO 641

L10 19 SEA SUB=L3 SSS SAM L9

=> s 19 sub=13 sss full

FULL SUBSET SEARCH INITIATED 17:41:08 FILE 'REGISTRY'

FULL SUBSET SCREEN SEARCH COMPLETED - 461 TO ITERATE

100.0% PROCESSED 461 ITERATIONS 399 ANSWERS  
SEARCH TIME: 00.00.01

L11 399 SEA SUB=L3 SSS FUL L9

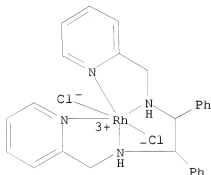
=> l11 not l3  
L12 0 L11 NOT L3

=> l3 not l11  
L13 62 L3 NOT L11

=> d scan

L13 62 ANSWERS REGISTRY COPYRIGHT 2009 ACS on STN  
IN Rhodium(1+), dichloro[1,2-diphenyl-N,N'-bis(2-pyridinylmethyl)-1,2-ethanediamine-N,N',N'',N''']-, stereoisomer, perchlorate (9CI)  
MF C26 H26 Cl2 N4 Rh . Cl O4

CM 1

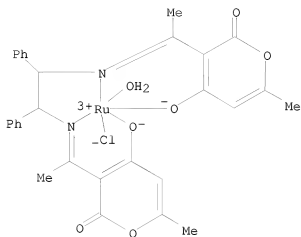


CM 2



HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L13 62 ANSWERS REGISTRY COPYRIGHT 2009 ACS on STN  
IN Ruthenium, aquachloro[[3,3'-(1,2-diphenyl-1,2-ethanediyl)bis[(nitrido-κN)ethynylidene]]bis[4-(hydroxy-κO)-6-methyl-2H-pyran-2-onato]](2-)]-, [OC-6-34-[S-(R\*,R\*)]]- (9CI)  
MF C30 H28 Cl N2 O7 Ru  
CI CCS



HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
91.84	285.06

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
0.00	-0.82

CA SUBSCRIBER PRICE

FILE 'CAPLUS' ENTERED AT 17:41:41 ON 29 JUN 2009

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FILE COVERS 1907 - 29 Jun 2009 VOL 151 ISS 1

FILE LAST UPDATED: 28 Jun 2009 (20090628/ED)

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Apr 2009

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Apr 2009

CAplus now includes complete International Patent Classification (IPC)

reclassification data for the second quarter of 2009.

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> l13

L14 42 L13

=> d ibib abs hitstr 1-42

L14 ANSWER 1 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2009:322536 CAPLUS

DOCUMENT NUMBER: 150:539377

TITLE: Mesoporous SBA-15-supported chiral catalysts: Preparation, characterization and asymmetric catalysis

AUTHOR(S): Liu, Guohua; Liu, Mouming; Sun, Yunqiang; Wang, Jianyao; Sun, Chuanshou; Li, Hexing

CORPORATE SOURCE: Department of Chemistry, College of Life and Environmental Science, Shanghai Normal University, Shanghai, 200234, Peop. Rep. China

SOURCE: Tetrahedron: Asymmetry (2009), 20(2), 240-246

CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER: Elsevier Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Two mesoporous silica-supported chiral Rh and Ru catalysts with ordered two-dimensional hexagonal mesostructures were prepared by directly post grafting organometallic complexes  $\text{RhCl}[(\text{R})\text{-MonoPhos}(\text{CH}_2)_3\text{Si}(\text{OMe})_3][(\text{R},\text{R})\text{-DPEN}]$  and  $\text{RuCl}_2[(\text{R})\text{-MonoPhos}(\text{CH}_2)_3\text{Si}(\text{OMe})_3][(\text{R},\text{R})\text{-DPEN}]$  (DPEN = 1,2-diphenylethylenediamine) on SBA-15. During the asym. hydrogenation of various aromatic ketones under 40 atm  $\text{H}_2$ , both catalysts exhibited high catalytic activities (> 97% conversions) and moderate enantioselectivities (33-54% ee). Furthermore, the chiral Rh catalyst could be easily recovered and used repetitively five times without significantly affecting its catalytic activity and enantioselectivity. A catalytic comparison of the mesoporous silica-supported chiral Rh catalyst prepared by a post modification method is also discussed.

IT 1152161-66-4DP, silica-supported 1152161-67-5DP,

silica-supported

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);

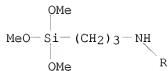
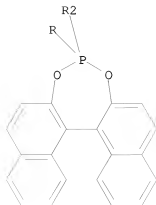
USES (Uses)

(stereoselective hydrogenation of acetophenones on silica-supported chiral ruthenium and rhodium catalysts)

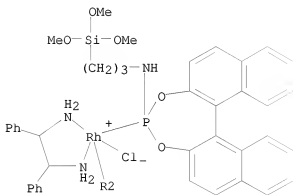
RN 1152161-66-4 CAPLUS

CN INDEX NAME NOT YET ASSIGNED

PAGE 1-A

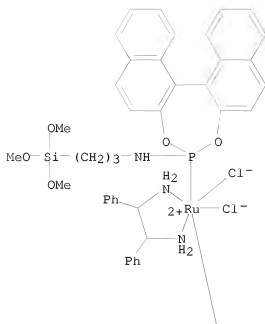


PAGE 2-A

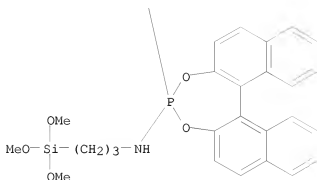


RN 1152161-67-5 CAPLUS  
CN INDEX NAME NOT YET ASSIGNED

PAGE 1-A



PAGE 2-A



REFERENCE COUNT: 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 2 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2008:1117981 CAPLUS  
 DOCUMENT NUMBER: 149:378379  
 TITLE: Process for preparation of alcohols via hydrogenation of esters or lactones in the presence of a ruthenium phosphine amine catalyst.  
 INVENTOR(S): Ino, Yasunori; Yoshida, Akifumi; Kuriyama, Wataru  
 PATENT ASSIGNEE(S): Takasago International Corporation, Japan

SOURCE: Eur. Pat. Appl., 26pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1970360	A1	20080917	EP 2008-152538	20080310
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, AL, BA, MK, RS				
JP 2009096752	A	20090507	JP 2007-269229	20071016
JP 2008260758	A	20081030	JP 2008-55738	20080306
US 20080228012	A1	20080918	US 2008-76150	20080314
JP 2009001545	A	20090108	JP 2008-114075	20080424
PRIORITY APPLN. INFO.:			JP 2007-69201	A 20070316
			JP 2007-134905	A 20070522
			JP 2007-269229	A 20071016

OTHER SOURCE(S): MARPAT 149:378379

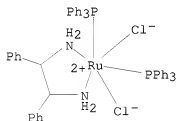
AB A method for producing alcs. comprises reducing esters or lactones with H<sub>2</sub> gas in the presence of a catalyst comprising a ruthenium compound, a monodentate monophosphine or a bidentate bisphosphine, and an amine. The catalyst may be of the formula: RuX<sub>1</sub>X<sub>2</sub>(Lp)<sub>m</sub>(Lq)<sub>n</sub> [X<sub>1</sub>, X<sub>2</sub> = anionic ligand; L = phosphine ligand; m = 1 when L is bidentate, while m = 2 when L is monodentate; Lq = amine ligand; n = 1 when L is bidentate, while n = 2 when L is monodentate]. Thus, phthalide was hydrogenated in the presence of RuCl<sub>2</sub>(dppp)(en) [dppp = 1,3-bis(diphenylphosphino)propane, en = ethylenediamine] and NaOMe in THF and 5 MPa at 100° for 18 h to give 99.5% conversion to 1,2-benzenedimethanol in >99% selectivity.

IT 886446-25-9P  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(preparation of alcs. via hydrogenation of esters or lactones in the presence of a ruthenium phosphine amine catalyst)

RN 886446-25-9 CAPLUS

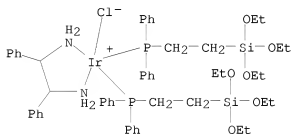
CN Ruthenium, dichloro[(1R,2R)-1,2-diphenyl-1,2-ethanediamine-κN,κN']bis(triphenylphosphine)-, (OC-6-13)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 3 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2008:866051 CAPLUS

DOCUMENT NUMBER: 150:351683  
 TITLE: Enantioselective hydrogenation of aromatic ketones catalyzed by a mesoporous silica-supported iridium catalyst  
 AUTHOR(S): Liu, Guohua; Yao, Mei; Wang, Jianyao; Lu, Xiaoquan; Liu, Mouming; Zhang, Fang; Li, Hexing  
 CORPORATE SOURCE: Department of Chemistry, Shanghai Normal University, Shanghai, 200234, Peop. Rep. China  
 SOURCE: Advanced Synthesis & Catalysis (2008), 350(10), 1464-1468  
 CODEN: ASCAF7; ISSN: 1615-4150  
 PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB A mesoporous, silica-supported, chiral iridium catalyst with a highly ordered dimensional-hexagonal mesostructure was prepared by postgrafting the organometallic complex (1-diphenylphosphino-2-triethylsilyl ethane)((R,R)-1,2-diphenylethylenediamine)iridium chloride {IrCl[PPH2(CH2)2Si(OEt)3]2[(R,R)-DPEN] (DPEN = 1,2-diphenylethylenediamine)} on SBA-15 silica. During the asym. hydrogenation of various aromatic ketones under 40 atm of hydrogen, the mesoporous, silica-supported, chiral iridium catalyst exhibited high catalytic activity (> 95% conversions) and excellent enantioselectivity (≥ 99% ee). The catalyst could be recovered easily and used repetitively seven times without significantly affecting the catalytic activity and the enantioselectivity.  
 IT 1133881-42-1DP, SBA-15-supported  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (enantioselective hydrogenation of aromatic ketones catalyzed by a mesoporous silica-supported iridium catalyst)  
 RN 1133881-42-1 CAPLUS  
 CN INDEX NAME NOT YET ASSIGNED



RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (enantioselective hydrogenation of arom. ketones catalyzed by a mesoporous silica-supported iridium catalyst)  
 REFERENCE COUNT: 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 4 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2008:674920 CAPLUS  
 DOCUMENT NUMBER: 149:32089  
 TITLE: Hydrogenation of esters with ru/bidentate ligands



complexes  
 INVENTOR(S): Saudan, Lionel; Saudan, Christophe  
 PATENT ASSIGNEE(S): Firmenich SA, Switz.  
 SOURCE: PCT Int. Appl., 34pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008065588	A1	20080605	WO 2007-IB54746	20071122
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
IN 2009KN01588	A	20090529	IN 2009-KN1588	20090428
PRIORITY APPLN. INFO.:			WO 2006-IB54449	A 20061127
			WO 2007-IB54746	W 20071122

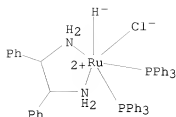
OTHER SOURCE(S): MARPAT 149:32089

AB The present invention relates to processes for the reduction by hydrogenation, using mol. H<sub>2</sub>, of a substrate containing one or two esters, or lactones, functional groups into the corresponding alc., or diol, said process is carried out in the presence of a base and at least one catalyst or pre-catalyst in the form of a ruthenium complex, [Ru(PP)(NN)S<sub>2</sub>-nY]<sub>2</sub>-n [wherein PP = a C6-60-diphosphine bidentate ligand (coordinated via two phosphine groups); NN = a C3-40-bidentate ligand (coordinated through two amino groups and whereby at least one amine group is a primary amine); S = neutral C1-26-neutral monodentate ligand; Y = H, halogen, BH<sub>4</sub>, AlH<sub>4</sub>, OH, C1-6-alkoxy, carboxyl radical; n = 0, 1, 2] comprising at least one substituted  $\alpha$ -carbon and one primary amine as one of the coordinating atoms. Thus, PhCO<sub>2</sub>Me was hydrogenated over [RuCl<sub>2</sub>{(R)-BINAP}{(S,S)-DPEN}] in THF containing NaOMe to give 77% PhCH<sub>2</sub>OH.

IT 1030633-32-9  
 RL: CAT (Catalyst use); USES (Uses)  
 (hydrogenolysis catalyst; hydrogenation of esters and lactones with ruthenium bidentate ligands complexes)

RN 1030633-32-9 CAPLUS

CN Ruthenium, chloro(1,2-diphenyl-1,2-ethanediamine-  
 $\kappa$ N1, $\kappa$ N2)hydrobis(triphenylphosphine)- (CA INDEX NAME)



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 5 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2008:587307 CAPLUS

DOCUMENT NUMBER: 150:329267

TITLE: Asymmetric hydrogenation of acetophenone catalyzed by chiral Ru complex in mesoporous material supported ionic liquid

AUTHOR(S): Lou, Lan-Lan; Peng, Xiaojie; Yu, Kai; Liu, Shuangxi  
CORPORATE SOURCE: Institute of New Catalytic Materials Science, College of Chemistry, Nankai University, Tianjin, 300071, Peop. Rep. China

SOURCE: Catalysis Communications (2008), 9(9), 1891-1893

CODEN: CCAOAC; ISSN: 1566-7367

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 150:329267

AB The chiral Ru complex was successfully immobilized inside the channels of four kinds of mesoporous materials with a method based on supported ionic liquid system. The prepared heterogeneous catalysts exhibited high activity and enantioselectivity in the asym. hydrogenation of acetophenone. Furthermore, these catalysts were stable and could be recycled at least four times without noticeable decrease in catalytic activity. And the SiO<sub>2</sub>-supported catalyst exhibited the best stability.

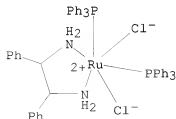
IT 320338-32-7P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(asym. hydrogenation of acetophenone catalyzed by chiral Ru complex in mesoporous material supported ionic liquid)

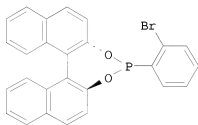
RN 320338-32-7 CAPLUS

CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine- $\kappa$ N, $\kappa$ N']bis(triphenylphosphine)-, (OC-6-13)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

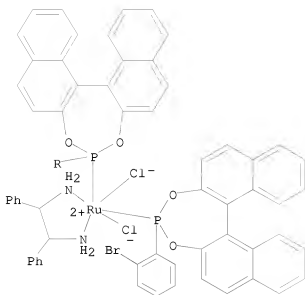
L14 ANSWER 6 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2008:66050 CAPLUS  
 DOCUMENT NUMBER: 150:97626  
 TITLE: The synthesis and application of BrXuPHOS: a novel monodentate phosphorus ligand for the asymmetric hydrogenation of ketones  
 AUTHOR(S): Wills, Martin; Xu, Yingjian; Docherty, Gordon; Woodward, Gary  
 CORPORATE SOURCE: Department of Chemistry, The University of Warwick, Coventry, CV4 7AL, UK  
 SOURCE: Catalysts for Fine Chemical Synthesis (2007), Volume 5, 116-121. Editor(s): Roberts, Stanley M.; Whittall, John. John Wiley & Sons Ltd.: Chichester, UK. CODEN: 69KIGF  
 DOCUMENT TYPE: Conference  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 150:97626  
 GI



I

AB The use of the monodentate phosphorus ligand BrXuPHOS I in a ruthenium complex furnishes a catalyst for the asym. hydrogenation of simple ketones.  
 IT 798560-99-3P  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);  
 USES (Uses)  
 (preparation of monodentate phosphorus ligand BrXuPHOS and use in Ru-catalyzed asym. hydrogenation of ketones)  
 RN 798560-99-3 CAPLUS  
 CN Ruthenium, bis[(11bS)-4-(2-bromophenyl)dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin-κP4]dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-κN1,κN2]-, (OC-6-13)- (CA INDEX NAME)

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REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 7 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2008:22564 CAPLUS  
 DOCUMENT NUMBER: 148:284833  
 TITLE: Facile synthesis of a mesoporous silica-supported catalyst for Ru-catalyzed transfer hydrogenation of ketones  
 AUTHOR(S): Liu, Guohua; Yao, Mei; Zhang, Fang; Gao, Yan; Li, Hexing  
 CORPORATE SOURCE: Department of Chemistry, College of Life and Environmental Science, Shanghai Normal University, Shanghai, Peop. Rep. China  
 SOURCE: Chemical Communications (Cambridge, United Kingdom) (2008), (3), 347-349  
 CODEN: CHCOFS; ISSN: 1359-7345  
 PUBLISHER: Royal Society of Chemistry  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 148:284833

AB A convenient method for preparation of a mesoporous silica-supported chiral catalyst by postgrafting a homogeneous catalyst on SBA-15 was developed and its application in the asym. transfer hydrogenation of aromatic ketones was investigated.

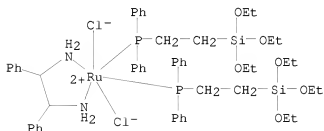
IT 1008530-86-6DP, silica-supported

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(preparation of a mesoporous silica-supported catalyst for Ru-catalyzed transfer hydrogenation of ketones)

RN 1008530-86-6 CAPLUS

CN Ruthenium, dichloro[(1R,2R)-1,2-diphenyl-1,2-ethanediamine-κN1,κN2]bis[diphenyl[2-(triethoxysilyl)ethyl]phosphine-κP]-, (OC-6-13)- (CA INDEX NAME)



RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn. of a mesoporous silica-supported catalyst for Ru-catalyzed transfer hydrogenation of ketones)

REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 8 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2007:362182 CAPLUS

DOCUMENT NUMBER: 147:95222

TITLE: Structural studies on ruthenium(II) complexes used in interphase catalysis for the hydrogenation of ketones

AUTHOR(S): Krishnan, Venkata; Bertagnolli, Helmut

CORPORATE SOURCE: Institute of Physical Chemistry, University of Stuttgart, Stuttgart, 70569, Germany

SOURCE: Applied Organometallic Chemistry (2007), 21(3), 161-171

CODEN: AOCHEX; ISSN: 0268-2605

PUBLISHER: John Wiley & Sons Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

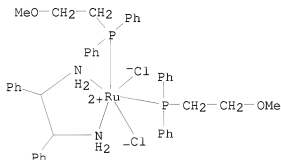
AB Structural studies were performed on catalytically active ruthenium(II) complexes used in interphases, by means of XAFS spectroscopy. The EXAFS investigations indicate that the complexes retain their structural integrity when they are embedded on polysiloxane matrixes to form stationary phase materials. The AXAFS studies reveal that the variations in the catalytic activity of the complexes with different ligands can be correlated to the differences in the electronic structure around the active ruthenium center. The EXAFS investigations show that, in asym. transfer hydrogenation reactions catalyzed by ruthenium(II) complexes, the co-catalyst plays a crucial role not only in enhancing the catalytic

activity, but also in determining the structure of the intermediate species.

IT 942128-81-6  
 RL: CAT (Catalyst use); PRP (Properties); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
 (reaction with co-catalyst; EXAFS structural studies on ruthenium(II) complexes used in interphase catalysis for the transfer hydrogenation of ketones)

RN 942128-81-6 CAPLUS

CN Ruthenium, dichloro(1,2-diphenyl-1,2-ethanediamine- $\kappa$ N1, $\kappa$ N2)bis[(2-methoxyethyl)diphenylphosphine- $\kappa$ P]-, (OC-6-13)- (CA INDEX NAME)



REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 9 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2007:122373 CAPLUS

DOCUMENT NUMBER: 147:521925

TITLE: Asymmetric hydrogenation of 2-acetylnaphthalene catalyzed by  $\text{RuCl}_2[\text{P}(\text{C}_6\text{H}_5)_3]_2$ -(R,R)-DPEN

AUTHOR(S): Tao, Ming; Xiong, Wei; Chen, Hua; Li, Xianjun

CORPORATE SOURCE: Department of Biology and Chemistry, Xichang College, Xichang, Sichuan, 615022, Peop. Rep. China

SOURCE: Cuihua Xuebao (2006), 27(12), 1107-1110

CODEN: THHPD3; ISSN: 0253-9837

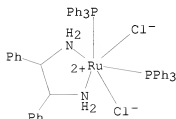
PUBLISHER: Kexue Chubanshe

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB A novel ruthenium complex  $\text{RuCl}_2[\text{P}(\text{C}_6\text{H}_5)_3]_2$ -(R,R)-DPEN [DPEN = 1,2-diphenylethylenediamine; dichloro[(1R,2R)-1,2-diphenyl-1,2-ethanediamine- $\kappa$ N, $\kappa$ N']bis(triphenylphosphine)ruthenium] was synthesized and characterized by  $^1\text{H}$  and  $^{31}\text{P}$  NMR. The ruthenium complex was applied to the asym. hydrogenation of 2-acetylnaphthalene. The effects of reaction temperature, hydrogen pressure, and molar ratio of base to catalyst on the activity and enantioselectivity were investigated in an isopropanol solution of  $(\text{CH}_3)_3\text{COK}$ . The results showed that the increase in the temperature and pressure accelerated the reaction but slightly decreased the enantioselectivity for (S)- $\alpha$ -(2-naphthyl)ethanol [i.e., ( $\alpha$ S)- $\alpha$ -methyl-2-naphthalenemethanol]. Under the conditions of acetylnaphthalene:  $(\text{CH}_3)_3\text{COK}:\text{Ru} = 50000:450:1$  (molar ratio), 4 MPa, 25°, and 16 h, 83% ee and 100% yield of  $\alpha$ -(2-naphthyl)ethanol were achieved.

IT 886446-25-9P, Dichloro[(1R,2R)-1,2-diphenyl-1,2-ethanediamine-  
 $\kappa\text{N},\kappa\text{N}'$ ]bis(triphenylphosphine)ruthenium  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);  
 USES (Uses)  
 (preparation of dichloro[(R,R)-diphenylethanediamine-  
 $\kappa\text{N},\kappa\text{N}'$ ]bis(triphenylphosphine)ruthenium and study of its  
 applicability as catalyst for stereoselective hydrogenation of  
 acetylnaphthalene)  
 RN 886446-25-9 CAPLUS  
 CN Ruthenium, dichloro[(1R,2R)-1,2-diphenyl-1,2-ethanediamine-  
 $\kappa\text{N},\kappa\text{N}'$ ]bis(triphenylphosphine)-, (OC-6-13)- (9CI) (CA INDEX  
 NAME)

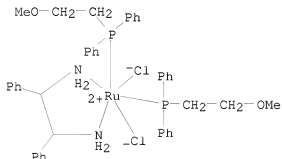


L14 ANSWER 10 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2006:1277528 CAPLUS  
 DOCUMENT NUMBER: 147:397121  
 TITLE: Phosphorus-31 NMR and FAB-Mass spectroscopies to  
 confirm synthesis of diamine(diphosphine)ruthenium(II)  
 complexes starting from diamine(ether  
 phosphine)ruthenium(II) complexes via phosphine  
 ligands exchanged  
 AUTHOR(S): Warad, Ismail; Al-Resayes, Saud I.  
 CORPORATE SOURCE: Department of Chemistry, Girls College at Hawtat  
 Sudayr, Saudi Arabia  
 SOURCE: Journal of Saudi Chemical Society (2006), 10(2),  
 285-294  
 CODEN: JSCSFO; ISSN: 1319-6103  
 PUBLISHER: Saudi Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 147:397121  
 AB The ligands exchange of the ether-phosphine (Ph2PCH2CH2OCH3) on the  
 diamine(etherphosphine)ruthenium(II) with  
 1,3-bis(diphenylphosphino)propane as a bidentate chelate ligand  
 successfully occurs to produce diamine[1,3-  
 bis(diphenylphosphino)propane]ruthenium(II) complexes in a good yields  
 under vigorous stirring for one week in an inert atmospheric using CH2Cl2 as  
 solvent. Several ether-phosphine-RuCl2 complexes with different types of  
 diamine were tested to confirm the substitution method. To collect more  
 information about the system  $^31\text{P}\{1\text{H}\}$  NMR and  $^{13}\text{C}\{1\text{H}\}$  NMR as well as  
 FAB-Mass spectroscopy were studied in parallel way to control and support  
 the ligands exchange reaction processes.  
 IT 942128-81-6  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of diamine(diphosphine)ruthenium(II) complexes starting from

diamine(ether phosphine)ruthenium(II) complexes via phosphine ligand exchanged)

RN 942128-81-6 CAPLUS

CN Ruthenium, dichloro(1,2-diphenyl-1,2-ethanediamine- $\kappa$ N1, $\kappa$ N2)bis[(2-methoxyethyl)diphenylphosphine- $\kappa$ P]-, (OC-6-13)- (CA INDEX NAME)



REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 11 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2006:1268224 CAPLUS

DOCUMENT NUMBER: 146:206056

TITLE: Ru(II) complexes of cyclohexanediamine and monodentate phosphorus ligands for asymmetric ketone hydrogenation  
Xu, Yingjian; Docherty, Gordon F.; Woodward, Gary; Wills, Martin

CORPORATE SOURCE: Asymmetric Catalysis Group, Department of Chemistry, Warwick University, Coventry, CV4 7AL, UK

SOURCE: Tetrahedron: Asymmetry (2006), 17(20), 2925-2929  
CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER: Elsevier Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 146:206056

AB The incorporation of a trans-1,2-diaminocyclohexane in place of DPEN provides improvements in enantioselectivity to asym. ketone hydrogenation reactions using BrXuPHOS-Ru-diamine catalysts. Substrates containing halogenated aryl rings are particularly compatible with this catalyst, however,  $\alpha$ -chlorinated ketones remain resistant to reduction under any conditions.

IT 798560-99-3

RL: CAT (Catalyst use); USES (Uses)

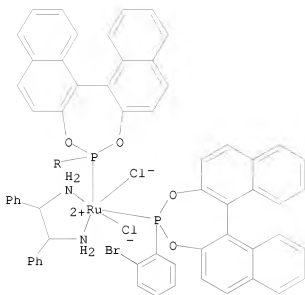
(Ru(II) complexes of cyclohexanediamine and monodentate phosphorus ligands for asym. ketone hydrogenation)

RN 798560-99-3 CAPLUS

CN Ruthenium, bis[(11bS)-4-(2-bromophenyl)dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin- $\kappa$ P4]dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine- $\kappa$ N1, $\kappa$ N2]-, (OC-6-13)- (CA INDEX NAME)



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REFERENCE COUNT: 82 THERE ARE 82 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 12 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2006:606687 CAPLUS  
 DOCUMENT NUMBER: 145:83530  
 TITLE: Tetradentate ligands and metal complexes thereof for asymmetric catalysis  
 INVENTOR(S): Boaz, Neil Warren  
 PATENT ASSIGNEE(S): USA  
 SOURCE: U.S. Pat. Appl. Publ., 22 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20060135804	A1	20060622	US 2004-18287	20041221
WO 2006068879	A1	20060629	WO 2005-US45031	20051212

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: US 2004-18287 A 20041221

OTHER SOURCE(S): CASREACT 145:83530; MARPAT 145:83530

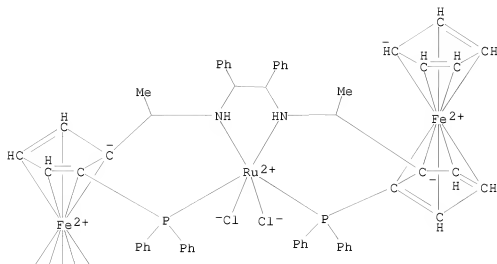
AB This invention relates to novel, substantially enantiomerically pure tetradentate ligands comprised of two phosphines and two secondary amines. These species have been used as ligands for metal catalysts for asym. reactions and have demonstrated good enantioselectivity, in particular as ruthenium complexes for asym. hydrogenation. Also disclosed are methods for making the ligands, corresponding catalyst complexes, and processes employing the ligands and catalysts. The ligands may be described by the general formula, R<sub>2</sub>P-L<sub>1</sub>-NH-L<sub>2</sub>-NH-L<sub>3</sub>-PR<sub>12</sub> (R, R<sub>1</sub> = independently branched or straight chain C<sub>1</sub>-20 alkyl, C<sub>3</sub>-8 cycloalkyl, C<sub>6</sub>-20 carbocyclic aryl, S, N, O containing C<sub>4</sub>-20 heteroaryl, etc.; L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub> = enantiomerically pure same or different diradicals with branched or straight chain C<sub>1</sub>-20 alkyl, C<sub>3</sub>-8 cycloalkyl, C<sub>6</sub>-20 carbocyclic aryl, S, N, O containing C<sub>4</sub>-20 heteroaryl, metallocenylalkyl, etc.). Thus, reaction of N,N'-bis-[(R)-1-[(S)-2-[(3,5-dimethylphenyl)phosphino]ferrocenyl]ethyl] (S,S)-1,2-cyclohexyldiamine (preparation given) with p-cymene ruthenium dichloride dimer in DMF at 100° for 1h gave 38% title catalyst, N,N'-bis[(R)-1-[(S)-2-(bis[3,5-dimethylphenyl]phosphino)ferrocenyl]ethyl] (S,S)-1,2-cyclohexyldiamineruthenium(II) dichloride. Asym. hydrogenation of acetylferrocene using the prepared catalyst is also given.

IT 893444-79-6P 893444-83-2P  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (preparation of tetradentate aminophosphinoferrocenyl ligands and their ruthenium complexes for asym. hydrogenation catalysis)

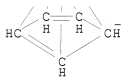
RN 893444-79-6 CAPLUS

CN Ruthenium, dichloro[(2S,2''S)-1,1''-[[[(1R,2R)-1,2-diphenyl-1,2-ethanediyl]bis[(imino-κN)-(1S)-ethylidene]]bis[2-(diphenylphosphino-κP)ferrocene]]-, (OC-6-13)-(9CI) (CA INDEX NAME)

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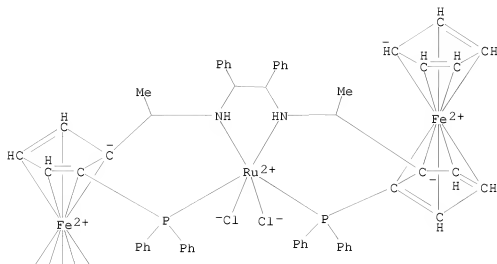


PAGE 2-A

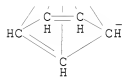


RN 893444-83-2 CAPLUS  
 CN Ruthenium, dichloro[(2S,2'S)-1,1'-[[ (1S,2S)-1,2-diphenyl-1,2-ethanediyl]bis[(imino-kN)-(1S)-ethylidene]]bis[2-(diphenylphosphino-kP)ferrocene]]-, (OC-6-13)-(9CI) (CA INDEX NAME)

PAGE 1-A



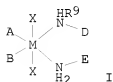
PAGE 2-A



L14 ANSWER 13 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2006:504471 CAPLUS  
 DOCUMENT NUMBER: 145:116145  
 TITLE: Transition metal complexes as catalysts for asymmetric hydrogenation of ketones or their derivatives  
 INVENTOR(S): Ding, Kuiling; Jing, Qing  
 PATENT ASSIGNEE(S): Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Peop. Rep. China  
 SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 36 pp.  
 CODEN: CNXXEV  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Chinese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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CN 1680412	A	20051012	CN 2005-10023632	20050127

CN 1331874 C 20070815  
 CN 101037451 A 20070919 CN 2007-10095929 20050127  
 PRIORITY APPLN. INFO.: CN 2005-10023632 A3 20050127  
 OTHER SOURCE(S): MARPAT 145:116145  
 GI



AB The title transition metal complexes with a general formula I were synthesized by reacting transition metal salts with diamine ligands or monoamine ligands and diphosphine ligands or monophosphine ligands at a molar ratio of 1:(1-5):(1-5) at 0-100°C for 0.5-20 h in organic solvents, where A or B is tris(Cl-12-alkyl)phosphine, or A and B form a ring containing two phosphorous atoms bonded to M; D or E is substituted phenylethyl, or D and E form a ring; M is Ru, Pd, Cu, or Fe; X is Cl, Br, or I; and R is H, methylsulfonyl, or p-methylbenzenesulfonyl. The metal complexes can be used in catalytically asym. hydrogenation of ketone such as acetophenone, benzophenone, Me cyclopropyl ketone, γ-N,N-dimethylamino-α-phenylacetone, and derivs. thereof.

IT 886446-25-9P 894772-54-4P 894772-55-5P

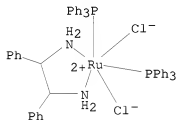
894772-56-6P 894772-57-7P 894772-61-3P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(method of preparation of transition metal complexes used in catalytically asym. hydrogenation of chiral ketones or their derivs.)

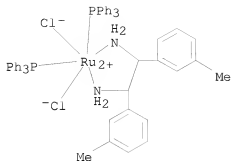
RN 886446-25-9 CAPLUS

CN Ruthenium, dichloro[(1R,2R)-1,2-diphenyl-1,2-ethanediamine-κN,κN']bis(triphenylphosphine)-, (OC-6-13)- (9CI) (CA INDEX NAME)

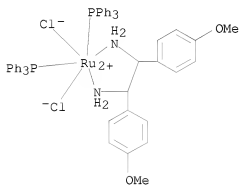


RN 894772-54-4 CAPLUS

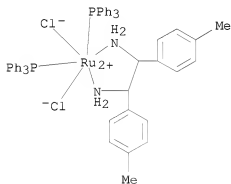
CN Ruthenium, [1,2-bis(3-methylphenyl)-1,2-ethanediamine-κN,κN']dichlorobis(triphenylphosphine)- (9CI) (CA INDEX NAME)



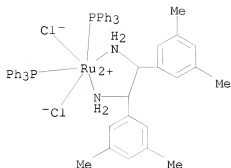
RN 894772-55-5 CAPLUS  
 CN Ruthenium, [1,2-bis(4-methoxyphenyl)-1,2-ethanediamine-  
 κN,κN']dichlorobis(triphenylphosphine)- (9CI) (CA INDEX NAME)



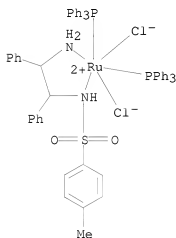
RN 894772-56-6 CAPLUS  
 CN Ruthenium, [1,2-bis(4-methylphenyl)-1,2-ethanediamine-  
 κN,κN']dichlorobis(triphenylphosphine)- (9CI) (CA INDEX NAME)



RN 894772-57-7 CAPLUS  
 CN Ruthenium, [1,2-bis(3,5-dimethylphenyl)-1,2-ethanediamine-  
 κN,κN']dichlorobis(triphenylphosphine)- (9CI) (CA INDEX NAME)



RN 894772-61-3 CAPLUS  
 CN Ruthenium, [N-[2-(amino-κN)-1,2-diphenylethyl]-4-methylbenzenesulfonamide-κN]dichlorobis(triphenylphosphine)- (CA INDEX NAME)



L14 ANSWER 14 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2006:31707 CAPLUS  
 DOCUMENT NUMBER: 144:110144  
 TITLE: Monodonor phosphonite ligands  
 INVENTOR(S): Docherty, Gordon Findlay; Woodward, Gary; Wills, Martin; Xu, Yingjian  
 PATENT ASSIGNEE(S): Rhodia Consumer Specialties Limited, UK  
 SOURCE: PCT Int. Appl., 45 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2006003431      A1      20060112      WO 2005-GB2614      20050704
W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
    CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
    GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ,
    LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA,
    NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK,
    SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU,
    ZA, ZM, ZW
RW:  AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
    IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
    CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
    GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
    KG, KZ, MD, RU, TJ, TM
EP 1763399      A1      20070321      EP 2005-757629      20050704
R:  AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
    IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR
CN 1993179      A      20070704      CN 2005-80025554      20050704
US 20080262269  A1      20081023      US 2008-631565      20080421
PRIORITY APPLN. INFO.:      GB 2004-14998      A      20040705
                                WO 2005-GB2614      W      20050704

OTHER SOURCE(S):      MARPAT 144:110144
GI

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AB The invention provides the use of a metal complex, which is a complex of one or more metal atoms or ions with one or more ligands, as a catalyst in an organic transformation selected from hydrogenation of carbon-heteroatom double bonds, hydroformylation, dialkylzinc addns. to aldehydes, hydrocarboxylation, allylic substitution, oxidation, epoxidn., dihydroxylation, Diels-Alder cycloaddns., dipolar cycloaddns. and rearrangement reactions, wherein one or more of the ligands is I, wherein the bridge group is an organic functional group, and the R group is a substituted Ph group, wherein the R group has only one substituent at the ortho position, and wherein a carbon atom of the R group bonds the R group to the P atom.

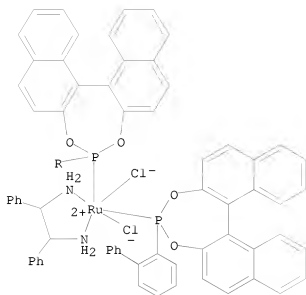
IT 798560-97-1 798560-98-2  
 RL: CAT (Catalyst use); USES (Uses)  
 (monodonor phosphonite ligands)

RN 798560-97-1 CAPLUS

CN Ruthenium, bis[(11bR)-4-[1,1'-biphenyl]-2-ylidnaptho[2,1-d:1',2'-f][1,3,2]dioxaphosphin-κP4]dichloro[(1R,2R)-1,2-diphenyl-1,2-ethanediamine-κN,κN']-, (OC-6-13)- (9CI) (CA INDEX NAME)



PAGE 1-A

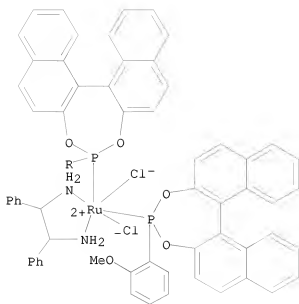


PAGE 2-A



RN 798560-98-2 CAPLUS  
 CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-  
 κN,κN']bis[(11bS)-4-(2-methoxyphenyl)dinaphtho[2,1-d:1',2'-  
 f][1,3,2]dioxaphosphepin-κP4]-, (OC-6-13)- (9CI) (CA INDEX NAME)

PAGE 1-A

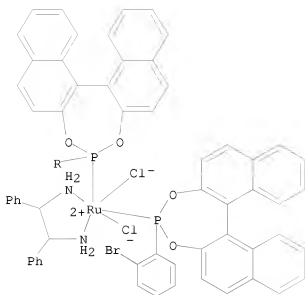


PAGE 2-A



IT 798560-99-3P  
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation);  
 USES (Uses)  
 (monodonor phosphonite ligands)  
 RN 798560-99-3 CAPLUS  
 CN Ruthenium, bis[(11bS)-4-(2-bromophenyl)dinaphtho[2,1-d:1',2'-  
 f][1,3,2]dioxaphosphepin-κP4]dichloro[(1S,2S)-1,2-diphenyl-1,2-  
 ethanediamine-κN1,κN2]-, (OC-6-13)- (CA INDEX NAME)

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REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

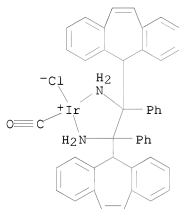
L14 ANSWER 15 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2005:1307365 CAPLUS  
 DOCUMENT NUMBER: 144:44588  
 TITLE: Bistropyridylenediamines and their use  
 INVENTOR(S): Gruetzmacher, Hansjoerg; Maire, Pascal  
 PATENT ASSIGNEE(S): Lanxess Deutschland G.m.b.H., Germany  
 SOURCE: Eur. Pat. Appl., 16 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1604973	A1	20051214	EP 2005-11538	20050527
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK,				

BA, HR, IS, YU

DE 102004027772	A1	20060105	DE 2004-102004027772	20040608
IN 2005DE01436	A	20070824	IN 2005-DE1436	20050603
US 20050283014	A1	20051222	US 2005-145839	20050606
JP 2006008683	A	20060112	JP 2005-167426	20050607
CN 1706806	A	20051214	CN 2005-10083743	20050608

PRIORITY APPLN. INFO.: DE 2004-102004027772A 20040608  
 OTHER SOURCE(S): CASREACT 144:44588; MARPAT 144:44588  
 AB The preparation and the process for the preparation of bistripylidenediamines  
 are reported. The Ir complexes of the bistripylidenediamines were prepared and  
 used as hydrogenation catalysts.  
 IT 870992-88-4P  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);  
 USES (Uses)  
 (preparation as hydrogenation catalyst)  
 RN 870992-88-4 CAPLUS  
 CN Iridium, [(1S,2S)-1,2-bis(5H-dibenzo[a,d]cyclohepten-5-yl)-1,2-diphenyl-  
 1,2-ethanediamine-κN,κN']carbonylchloro-, (SP-4-2)- (9CI) (CA  
 INDEX NAME)



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 16 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2005:1028670 CAPLUS  
 DOCUMENT NUMBER: 144:399788  
 TITLE: Combinatorial micro electrochemistry. Part 4: Cyclic  
 voltammetric redox screening of homogeneous  
 ruthenium(II) hydrogenation catalysts  
 AUTHOR(S): Lindner, Ekkehard; Lu, Zhong-Lin; Mayer, Hermann A.;  
 Speiser, Bernd; Tittel, Carsten; Warad, Ismail  
 CORPORATE SOURCE: Institut fuer Anorganische Chemie, Universitaet  
 Tuebingen, Tuebingen, D-72076, Germany  
 SOURCE: Electrochemistry Communications (2005), 7(10),  
 1013-1020  
 CODEN: ECCMF9; ISSN: 1388-2481  
 PUBLISHER: Elsevier B.V.  
 DOCUMENT TYPE: Journal

LANGUAGE: English

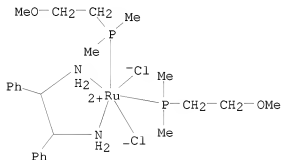
AB Organometallic Ru(II) complexes, which act as homogeneous hydrogenation catalysts, are characterized electrochem. with respect to their redox properties by a new screening technique (redox screening). Samples of the complexes are dissolved in an electrolyte and placed in the wells of microtiter plates. Electrode bundles are moved under computer control between these wells, and cyclic voltammograms are automatically recorded. Anal. of the current/potential curves shows a relation between the voltammogram shape or position and the catalytic activity of the complexes. Thus, the technique proves well suited as an electrochem.-based high-throughput method.

IT 620173-91-3

RL: CAT (Catalyst use); CPS (Chemical process); CST (Combinatorial study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); CMBI (Combinatorial study); PROC (Process); USES (Uses) (cyclic voltammetric redox screening of hydrogenation catalysts for acetophenone)

RN 620173-91-3 CAPLUS

CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-κN,κN']bis[(2-methoxyethyl)dimethylphosphine-κP]-, (OC-6-13)- (9CI) (CA INDEX NAME)

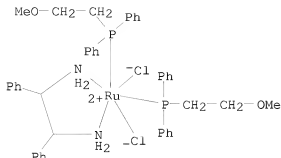


IT 590365-41-6 590384-39-7

RL: CAT (Catalyst use); CPS (Chemical process); CST (Combinatorial study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); CMBI (Combinatorial study); PROC (Process); USES (Uses) (cyclic voltammetric redox screening of hydrogenation catalysts for phenylbutenone)

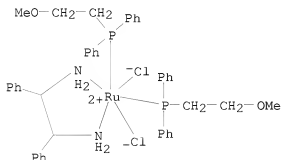
RN 590365-41-6 CAPLUS

CN Ruthenium, dichloro[(1R,2R)-1,2-diphenyl-1,2-ethanediamine-κN,κN']bis[(2-methoxyethyl)diphenylphosphine-κP]-, (OC-6-13)- (9CI) (CA INDEX NAME)



RN 590384-39-7 CAPLUS

CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-  
κN,κN']bis[(2-methoxyethyl)diphenylphosphine-κP]-,  
(OC-6-13)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 17 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2005:959366 CAPLUS

DOCUMENT NUMBER: 145:62618

TITLE: Asymmetric hydrogenations of ketones catalyzed by  
Ru-achiral phosphine-enantiopure diamine complexes

AUTHOR(S): Xia, Yu-Qing; Tang, Yuan-You; Liang, Zhi-Ming; Yu,  
Chang-Bin; Zhou, Xiang-Ge; Li, Rui-Xiang; Li, Xian-Jun  
CORPORATE SOURCE: Key Lab of Green Chemistry and Technology, Ministry of  
Education, Department of Chemistry, Sichuan

SOURCE: University, Sichuan, 610064, Peop. Rep. China  
Journal of Molecular Catalysis A: Chemical (2005),  
240(1-2), 132-138

CODEN: JMCCF2; ISSN: 1381-1169

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 145:62618

AB Five ruthenium complexes, RuCl<sub>2</sub>(MOTPP)<sub>2</sub>[(S,S)-DPEN] [MOTPP =  
tris(4-methoxyphenyl)phosphine], RuCl<sub>2</sub>(TFPP)<sub>2</sub>[(S,S)-DPEN] [TFPP =  
tris(4-trifluoromethylphenyl)phosphine], RuCl<sub>2</sub>(PPh<sub>3</sub>)<sub>2</sub>[(S,S)-DPEN],  
RuCl<sub>2</sub>(BDPX)[(S,S)-DPEN] [BDPX = 1,2-bis(diphenylphosphinomethyl)benzene],

RuCl<sub>2</sub>(BISBI) [(S,S)-DPEN] [BISBI = 2,2'-bis((diphenylphosphino)methyl)-1,1'-biphenyl] were synthesized and used for the hydrogenation of aromatic ketones. The complexes showed high catalytic activities, especially that the catalytic activity of the complex containing the diphosphine with large bite angle and the complex containing triarylphosphine with electron-donating group were higher than the other three complexes. The enantioselectivities of products were almost not influenced by the electron factors of phosphine.

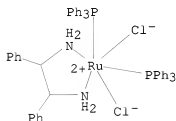
IT 320338-32-7P 320338-42-9P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(preparation and catalyst use of DPEN-rutheniums via ligand exchange of ruthenium phosphines with DPEN)

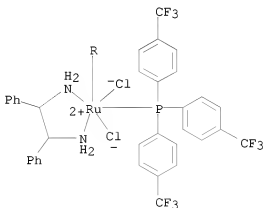
RN 320338-32-7 CAPLUS

CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-κN,κN']bis(triphenylphosphine)-, (OC-6-13)- (9CI) (CA INDEX NAME)



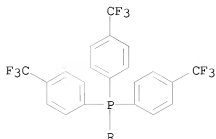
RN 320338-42-9 CAPLUS

CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-κN,κN']bis[tris[4-(trifluoromethyl)phenyl]phosphine-κP]-, (OC-6-13)- (9CI) (CA INDEX NAME)



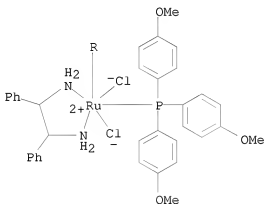
PAGE 1-A

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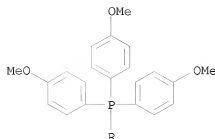


IT 890898-89-2P  
 RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic preparation);  
 PREP (Preparation); USES (Uses)  
 (preparation, catalyst use and crystal structure of [RuCl<sub>2</sub>(BISBI) (S,S)-DPEN]  
 via ligand exchange of ruthenium dichloride phosphine with  
 diphenylethyldiamine)  
 RN 890898-89-2 CAPLUS  
 CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-  
 κN,κN']bis[tris(4-methoxyphenyl)phosphine-κP]-,  
 (OC-6-13)- (9CI) (CA INDEX NAME)

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REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 18 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2005:921277 CAPLUS

DOCUMENT NUMBER: 143:405648

TITLE: Ruthenium(II) Complexes of Monodonor Ligands: Efficient Reagents for Asymmetric Ketone Hydrogenation  
 AUTHOR(S): Xu, Yingjian; Clarkson, Guy C.; Docherty, Gordon; North, Carl L.; Woodward, Gary; Wills, Martin  
 CORPORATE SOURCE: Department of Chemistry, University of Warwick, Coventry, CV4 7AL, UK

SOURCE: Journal of Organic Chemistry (2005), 70(20), 8079-8087  
 CODEN: JOCEAH; ISSN: 0022-3263

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 143:405648

AB A series of BINOL-derived ligands have been prepared and incorporated into ruthenium(II) complexes containing a diamine ligand. The complexes have proven to be excellent catalysts for the asym. hydrogenation of ketones, giving reduction products with enantiomeric excesses of up to 99%.

IT 798560-94-8P 798560-95-9P 798560-96-0P

798560-98-2P 798560-99-3P 798561-00-9P

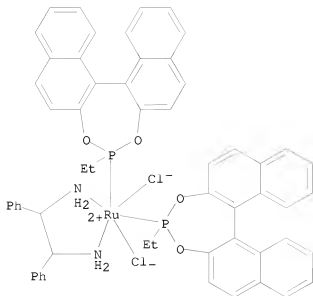
799291-87-5P 867349-28-8P 867349-42-6P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(preparation of ruthenium(II) complexes of monodonor ligands as efficient catalysts for asym. ketone hydrogenation)

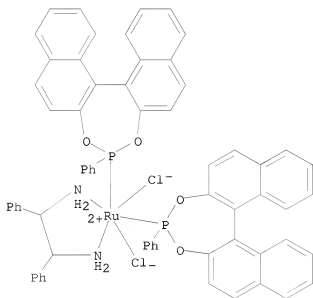
RN 798560-94-8 CAPLUS

CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-κN,κN']bis[(11bS)-4-ethylidinediphenyltho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin-κP4]-, (OC-6-13)- (9CI) (CA INDEX NAME)



RN 798560-95-9 CAPLUS

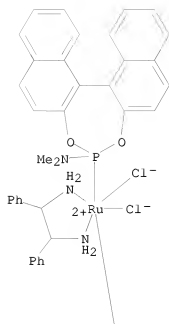
CN Ruthenium, dichloro[(1*S*,2*S*)-1,2-diphenyl-1,2-ethanediamine- $\kappa$ N, $\kappa$ N']bis[(1*l*b*S*)-4-phenyldinaphtho[2,1-*d*:1',2'-*f*][1,3,2]dioxaphosphepin- $\kappa$ P4]-, (OC-6-13)- (9CI) (CA INDEX NAME)



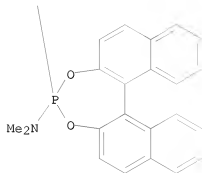
RN 798560-96-0 CAPLUS

CN Ruthenium, dichlorobis[(1*l*b*S*)-*N,N*-dimethyldinaphtho[2,1-*d*:1',2'-*f*][1,3,2]dioxaphosphepin-4-amine- $\kappa$ P4][(1*S*,2*S*)-1,2-diphenyl-1,2-ethanediamine- $\kappa$ N, $\kappa$ N']-, (OC-6-13)- (9CI) (CA INDEX NAME)

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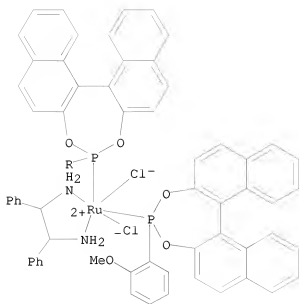


PAGE 2-A



RN 798560-98-2 CAPLUS  
 CN Ruthenium, dichloro[(1*S*,2*S*)-1,2-diphenyl-1,2-ethanediamine- $\kappa$ N, $\kappa$ N']bis[(11*bS*)-4-(2-methoxyphenyl)dinaphtho[2,1-*d*:1',2'-*f*][1,3,2]dioxaphosphepin- $\kappa$ P4]-, (OC-6-13)- (9CI) (CA INDEX NAME)

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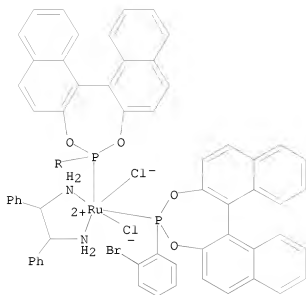


PAGE 2-A



RN 798560-99-3 CAPLUS  
 CN Ruthenium, bis[(11bS)-4-(2-bromophenyl)dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin-κP4]dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-κN1,κN2]-, (OC-6-13)- (CA INDEX NAME)

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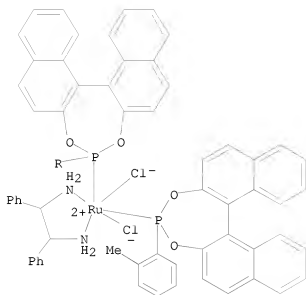


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RN 798561-00-9 CAPLUS  
 CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-  
 κN,κN']bis[(11bS)-4-(2-methylphenyl)dinaphtho[2,1-d:1',2'-  
 f][1,3,2]dioxaphosphepin-κP4]-, (OC-6-13)- (9CI) (CA INDEX NAME)

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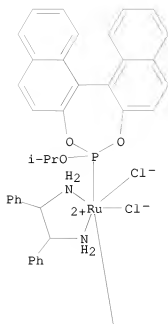


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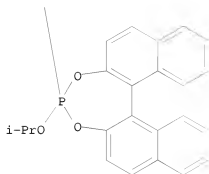


RN 799291-87-5 CAPLUS  
 CN Ruthenium, dichloro[(1*S*,2*S*)-1,2-diphenyl-1,2-ethanediamine-  
 κN,κN']bis[(1*l*b*S*)-4-(1-methylethoxy)dinaphtho[2,1-*d*:1',2'-  
*f*][1,3,2]dioxaphosphin-κP4]-, (OC-6-13)- (9CI) (CA INDEX NAME)

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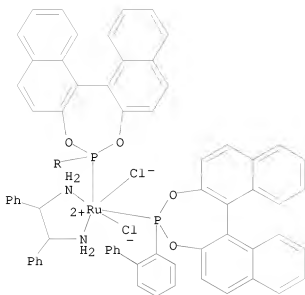


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RN 867349-28-8 CAPLUS  
 CN Ruthenium, bis[(11bS)-4-[1,1'-biphenyl]-2-ylidino]phtho[2,1-d:1',2'-  
 f][1,3,2]dioxaphosphepin-κP4]dichloro[(1S,2S)-1,2-diphenyl-1,2-  
 ethanediamine-κN,κN']-, (OC-6-13)- (9CI) (CA INDEX NAME)

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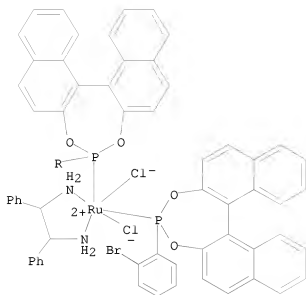
PAGE 2-A



RN 867349-42-6 CAPLUS  
 CN Ruthenium, bis[(11bR)-4-(2-bromophenyl)dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin-κP4]dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-κN,κN']-, (OC-6-13)- (9CI) (CA INDEX NAME)



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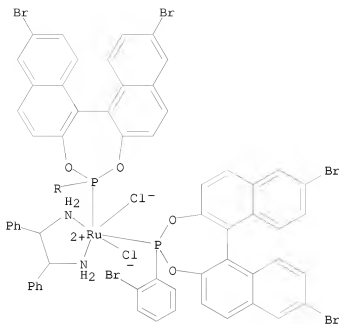
IT 867288-38-8P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of ruthenium(II) complexes of monodonor ligands as efficient  
 catalysts for asym. ketone hydrogenation)

RN 867288-38-8 CAPLUS

CN Ruthenium, bis[(11bR)-9,14-dibromo-4-(2-bromophenyl)dinaphtho[2,1-d:1',2'-  
 f][1,3,2]dioxaphosphepin-κP4]dichloro[(1R,2R)-1,2-diphenyl-1,2-  
 ethanediamine-κN,κN']-, (OC-6-13)- (9CI) (CA INDEX NAME)

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REFERENCE COUNT: 78 THERE ARE 78 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 19 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2005:714960 CAPLUS

DOCUMENT NUMBER: 144:467855

TITLE: Bulky achiral triarylphosphines mimic BINAP in Ru(II)-catalyzed asymmetric hydrogenation of ketones  
Jing, Qing; Zhang, Xue; Sun, Jie; Ding, Kuiling  
State Key Laboratory of Organometallic Chemistry,  
Shanghai Institute of Organic Chemistry, Chinese  
Academy of Sciences, Shanghai, 200032, Peop. Rep.  
China

SOURCE: Advanced Synthesis & Catalysis (2005), 347(9),  
1193-1197

PUBLISHER: CODEN: ASCAF7; ISSN: 1615-4150

DOCUMENT TYPE: Wiley-VCH Verlag GmbH & Co. KGaA

LANGUAGE: Journal

English

OTHER SOURCE(S): CASREACT 144:467855

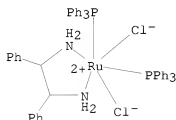
AB Catalysis of the enantioselective hydrogenation of ketones with Ru(II) complexes composed of cheap achiral monodentate phosphine ligands in combination with an enantiopure 1,2-diamine, affording a variety of optically active secondary alcs. with high efficiency and enantioselectivity, is reported. The steric impact of achiral monophosphine ligands in Ru complexes was found to be a critical factor for the high enantioselectivity of the reaction. This finding throws some light on a long-standing challenge of the high cost of chiral bisphosphine ligands, associated with an industrial application of the asym. hydrogenation of ketones.

IT 886446-25-9 886446-34-0

RL: CAT (Catalyst use); PRP (Properties); USES (Uses)  
(crystal structure; preparation of chiral secondary alcs. via asym. hydrogenation of ketones catalyzed by Ru(II) complexes with bulky achiral triarylphosphine ligands and a chiral diamine)

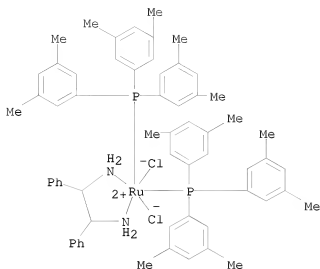
RN 886446-25-9 CAPLUS

CN Ruthenium, dichloro[(1R,2R)-1,2-diphenyl-1,2-ethanediamine-κN,κN']bis(triphenylphosphine)-, (OC-6-13)- (9CI) (CA INDEX NAME)



RN 886446-34-0 CAPLUS

CN Ruthenium, dichloro[(1R,2R)-1,2-diphenyl-1,2-ethanediamine-κN,κN']bis[tris(3,5-dimethylphenyl)phosphine]-, (OC-6-13)- (9CI) (CA INDEX NAME)



IT 886446-37-3

RL: CAT (Catalyst use); PRP (Properties); USES (Uses)

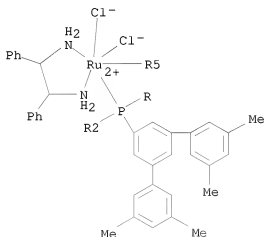
(mol. structure calculated by mol. mechanics; preparation of chiral secondary

alcs. via asym. hydrogenation of ketones catalyzed by Ru(II) complexes with bulky achiral triarylphosphine ligands and a chiral diamine)

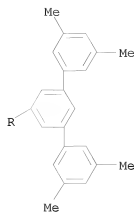
RN 886446-37-3 CAPLUS

CN Ruthenium, dichloro[(1R,2R)-1,2-diphenyl-1,2-ethanediamine-κN,κN']bis[tris(3,3'',5,5''-tetramethyl[1,1':3',1''-terphenyl]-5'-yl)phosphine]- (9CI) (CA INDEX NAME)

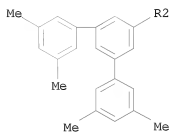
PAGE 1-A



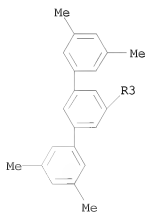
PAGE 2-A



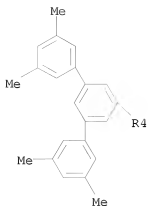
PAGE 3-A



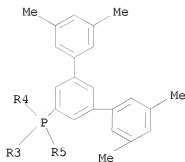
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PAGE 5-A

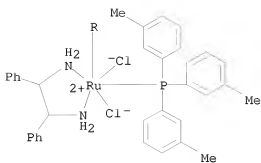


PAGE 6-A

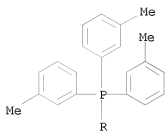


IT 886446-26-0 886446-36-2  
 RL: CAT (Catalyst use); USES (Uses)  
 (preparation of chiral secondary alcs. via asym. hydrogenation of ketones  
 catalyzed by Ru(II) complexes with bulky achiral triarylphosphine  
 ligands and a chiral diamine)  
 RN 886446-26-0 CAPLUS  
 CN Ruthenium, dichloro[(1R,2R)-1,2-diphenyl-1,2-ethanediamine-  
 κN,κN']bis[tris(3-methylphenyl)phosphine]-, (OC-6-13)- (9CI)  
 (CA INDEX NAME)

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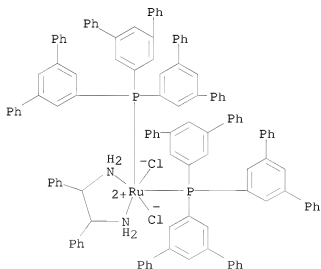


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RN 886446-36-2 CAPLUS

CN Ruthenium, dichloro[(1R,2R)-1,2-diphenyl-1,2-ethanediamine-  
 κN,κN']bis[tris([1,1':3',1''-terphenyl]-5'-yl)phosphine]-,  
 (OC-6-13)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 20 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2004:811014 CAPLUS

DOCUMENT NUMBER: 142:6263

TITLE: Asymmetric Hydrogenation of Ketones Using a Ruthenium(II) Catalyst Containing BINOL-Derived Monodonor Phosphorus-Donor Ligands

AUTHOR(S): Xu, Yingjian; Alcock, Nat W.; Clarkson, Guy J.; Docherty, Gordon; Woodward, Gary; Wills, Martin  
CORPORATE SOURCE: Department of Chemistry, University of Warwick, Coventry, CV4 7AL, UK

SOURCE: Organic Letters (2004), 6(22), 4105-4107  
CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 142:6263

AB A series of ruthenium(II) complexes containing BINOL-based monodonor phosphorus ligands have been prepared and applied to the asym. catalysis of the hydrogenation of aryl/alkyl ketones. The best ligands for this application are those which contain an aromatic groups with either a methoxide or bromide on the ortho position. Using these ligands, alcs. with ee's of up to 99% are formed.

IT 798560-99-3P

RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

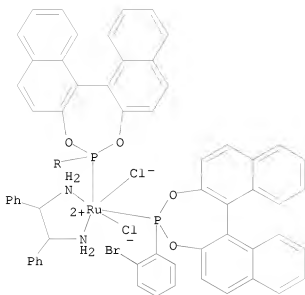
(crystal structure; stereoselective preparation of aryethanols via chiral ruthenium complexes catalyzed asym. hydrogenation of aryl/alkyl ketones)

RN 798560-99-3 CAPLUS

CN Ruthenium, bis[(11bS)-4-(2-bromophenyl)dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin-κP4]dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-κN1,κN2]-, (OC-6-13)- (CA INDEX NAME)



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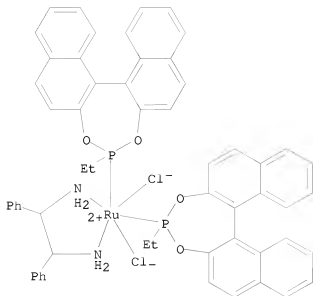


IT 798560-94-8P 798560-95-9P 798560-97-1P  
798561-00-9P 799291-87-5P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of chiral arylphosphorus ligands containing BINOL for  
ruthenium(II)  
complexes as potential asym. hydrogenation catalysts)

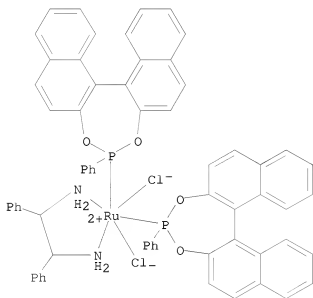
RN 798560-94-8 CAPLUS

CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-  
κN,κN']bis[(11bS)-4-ethylidinediphenyl[2,1-d:1',2'-  
f][1,3,2]dioxaphosphine-κP4]-, (OC-6-13)- (9CI) (CA INDEX NAME)



RN 798560-95-9 CAPLUS

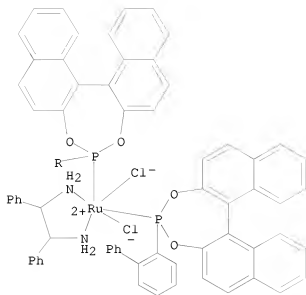
CN Ruthenium, dichloro[(1*S*,2*S*)-1,2-diphenyl-1,2-ethanediamine- $\kappa$ N, $\kappa$ N']bis[(11*bS*)-4-phenyldinaphtho[2,1-*d*:1',2'-*f*][1,3,2]dioxaphosphepin- $\kappa$ P4]-, (OC-6-13)- (9CI) (CA INDEX NAME)



RN 798560-97-1 CAPLUS

CN Ruthenium, bis[(11*bR*)-4-[1,1'-biphenyl]-2-ylidinaphtho[2,1-*d*:1',2'-*f*][1,3,2]dioxaphosphepin- $\kappa$ P4]dichloro[(1*R*,2*R*)-1,2-diphenyl-1,2-ethanediamine- $\kappa$ N, $\kappa$ N']-, (OC-6-13)- (9CI) (CA INDEX NAME)

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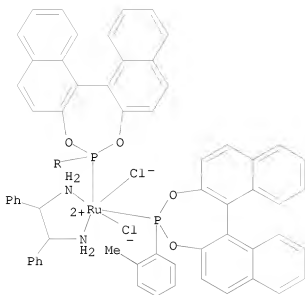


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RN 798561-00-9 CAPLUS  
 CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-κN,κN']bis[(11bS)-4-(2-methylphenyl)dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin-κP4]-, (OC-6-13)- (9CI) (CA INDEX NAME)

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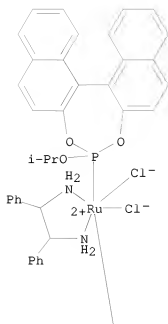


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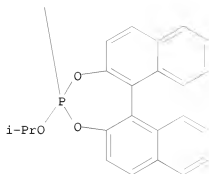


RN 799291-87-5 CAPLUS  
 CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-  
 κN,κN']bis[(11bS)-4-(1-methylethoxy)dinaphtho[2,1-d:1',2'-  
 f][1,3,2]dioxaphosphepin-κP4]-, (OC-6-13)- (9CI) (CA INDEX NAME)

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PAGE 2-A

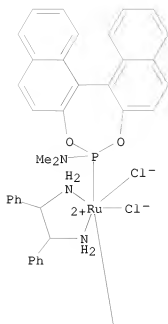


IT 798560-96-0P 798560-98-2P  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);  
 USES (Uses)  
 (stereoselective preparation of arylethanols via chiral ruthenium complexes  
 catalyzed asym. hydrogenation of aryl/alkyl ketones)

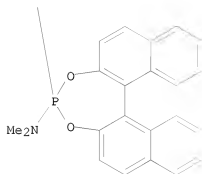
RN 798560-96-0 CAPLUS

CN Ruthenium, dichlorobis[(11bS)-N,N-dimethyldinaphtho[2,1-d:1',2'-  
 f][1,3,2]dioxaphosphepin-4-amine-κP4][(1S,2S)-1,2-diphenyl-1,2-  
 ethanediamine-κN,κN']-, (OC-6-13)- (9CI) (CA INDEX NAME)

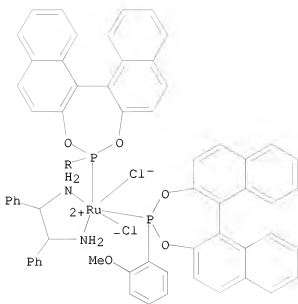
PAGE 1-A



PAGE 2-A



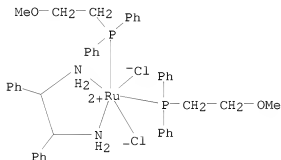
RN 798560-98-2 CAPLUS  
 CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-  
 $\kappa$ N, $\kappa$ N']bis[(11bS)-4-(2-methoxyphenyl)dinaphtho[2,1-d:1',2'-  
 f][1,3,2]dioxaphosphepin- $\kappa$ P4]-, (OC-6-13)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

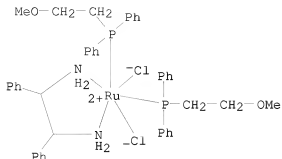
L14 ANSWER 21 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2004:278076 CAPLUS  
 DOCUMENT NUMBER: 141:46356  
 TITLE: Supported organometallic complexes part 39: cationic diamine(ether-phosphine)ruthenium(II) complexes as precursors for the hydrogenation of trans-4-phenyl-3-butene-2-one  
 AUTHOR(S): Warad, Ismail; Eichele, Klaus; Mayer, Hermann A.; Lindner, Ekkehard  
 CORPORATE SOURCE: Institut für Anorganische Chemie der Universität Tübingen, Tübingen, D-72076, Germany  
 SOURCE: Inorganica Chimica Acta (2004), 357(6), 1847-1853  
 CODEN: ICHAA3; ISSN: 0020-1693  
 PUBLISHER: Elsevier Science B.V.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 141:46356

- AB Treatment of  $\text{RuCl}_2(\eta^1\text{-Ph}_2\text{PCH}_2\text{CH}_2\text{OCH}_3)_2\text{L}$  (1; L = 2,2-dimethylethylenediamine, trans-1,2-cyclohexanediamine, o-phenylenediamine, (R,R)- and (S,S)-1,2-diphenylethylenediamine, 2,2-dimethyl-1,3-propanediamine, 2,2'-bipyridine) with one equivalent of  $\text{AgX}$  (X = OTf, BF<sub>4</sub>) in  $\text{CH}_2\text{Cl}_2$  gave the monocationic Ru(II) complexes  $[\text{RuCl}(\eta^1\text{-Ph}_2\text{PCH}_2\text{CH}_2\text{OCH}_3)(\eta^2\text{-Ph}_2\text{PCH}_2\text{CH}_2\text{OCH}_3)\text{L}]\text{X}$  (2). These complexes were characterized by NMR, and mass spectroscopy as well as by elemental analyses, 2 (L = 2,2-dimethylethylenediamine) addnl. by an x-ray structural anal. Complex 2 (L = 2,2-dimethylethylenediamine) crystallizes in the monoclinic space group C2/c with Z = 8. The monocationic and neutral complexes were applied as catalysts in the selective hydrogenation of trans-4-phenyl-3-butene-2-one. With the exception of (L = o-phenylenediamine, 2,2'-bipyridine) and the resp. 2 complexes all catalysts showed high activities and selectivities toward the hydrogenation of the carbonyl group under mild conditions. However, the activity of the cationic catalysts is only half of that of their neutral congeners.
- IT 590365-41-6 590384-39-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reactant for preparation of ruthenium methoxyethylphosphine diamine complexes with chelated methoxyethylphosphine)
- RN 590365-41-6 CAPLUS
- CN Ruthenium, dichloro[(1R,2R)-1,2-diphenyl-1,2-ethanediamine-κN,κN']bis[(2-methoxyethyl)diphenylphosphine-κP]-, (OC-6-13)- (9CI) (CA INDEX NAME)



- RN 590384-39-7 CAPLUS
- CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-κN,κN']bis[(2-methoxyethyl)diphenylphosphine-κP]-, (OC-6-13)- (9CI) (CA INDEX NAME)





REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 22 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2004:181806 CAPLUS

DOCUMENT NUMBER: 140:217810

TITLE: Process for the preparation of phosphites and complexes with transition metals and their use as catalyst

INVENTOR(S): Scholz, Ulrich; Vogl, Erasmus; Gerlach, Arne; Hassfeld, Jorma; Mesequer, Benjamin

PATENT ASSIGNEE(S): Bayer Chemicals AG, Germany

SOURCE: Eur. Pat. Appl., 24 pp.

CODEN: EPXXDW

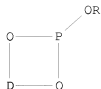
DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1394168	A1	20040303	EP 2003-18513	20030816
EP 1394168	B1	20080521		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
DE 10240803	A1	20040311	DE 2002-10240803	20020830
IN 2003MU00805	A	20050401	IN 2003-MU805	20030814
AT 396196	T	20080615	AT 2003-18513	20030816
US 20040116726	A1	20040617	US 2003-650012	20030826
US 6992201	B2	20060131		
JP 2004091488	A	20040325	JP 2003-303492	20030827
CN 1495189	A	20040512	CN 2003-132748	20030829
PRIORITY APPLN. INFO.:			DE 2002-10240803	A 20020830
OTHER SOURCE(S):	CASREACT 140:217810; MARPAT 140:217810			
GI				



I

AB The preparation of phosphites, I (D = (un)substituted 1,1'-biphenyl-2,2'-diyl, 1,1'-binaphthyl-2,2'-diyl, etc.; R = C1-12 alkyl, C2-12 alkenyl, C1-12 haloalkyl, C5-15 arylalkyl, C4-14 aryl, etc.), and their transition metal complexes, useful as catalysts, is described. Thus, reaction of PCl<sub>3</sub> with 2-propanol gave isopropylidichloro phosphite which on treatment with (R)-1,1'-binaphthyl-2,2'-diol in the presence of Et<sub>3</sub>N in THF gave 79% {(R)-1,1'-binaphthyl-2,2'-diyl}-isopropylphosphite. Reaction of Rh(COD)2OTf with {(R)-1,1'-binaphthyl-2,2'-diyl}-isopropylphosphite in CH<sub>2</sub>Cl<sub>2</sub> gave the rhodium complex which was useful as catalyst.

IT 663940-90-7P 663940-91-8P

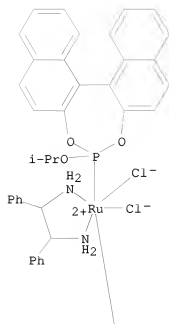
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(preparation of phosphites and complexes with transition metals and their use as catalyst)

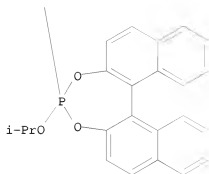
RN 663940-90-7 CAPLUS

CN Ruthenium, dichloro(1,2-diphenyl-1,2-ethanediamine-κN,κN') bis[4-(1-methylethoxy)dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin-κP4]- (9CI) (CA INDEX NAME)

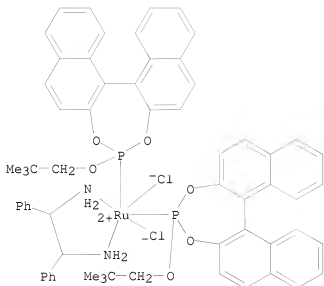
PAGE 1-A



PAGE 2-A



RN 663940-91-8 CAPLUS  
 CN Ruthenium, dichlorobis[4-(2,2-dimethylpropoxy)dinaphtho[2,1-d:1',2'-  
 f][1,3,2]dioxaphosphepin-κP4] (1,2-diphenyl-1,2-ethanediamine-  
 κN,κN')- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 23 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2003:788142 CAPLUS

DOCUMENT NUMBER: 140:209395

TITLE: Chiral Schiff base ruthenium (III) complexes: Synthesis, characterisation, catalytic and antibacterial studies

AUTHOR(S): Thangadurai, T. Daniel; Ihm, Son-Ki

CORPORATE SOURCE: Department of Chemical and Biomolecular Engineering, Korea Advanced Institute of Science and Technology, Daejeon, 305-701, S. Korea

SOURCE: Journal of Industrial and Engineering Chemistry (Seoul, Republic of Korea) (2003), 9(5), 563-568  
CODEN: JIECFI; ISSN: 1226-086X

PUBLISHER: Korean Society of Industrial and Engineering Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 140:209395

AB Chiral Schiff base Ru(III) complexes [RuX(LL')(EPh3)] (X = Cl or Br; LL' = chiral Schiff base; E = P or As) were synthesized by the reactions of [RuX3(EPh3)3] or [RuBr3(PPh3)2(MeOH)] with appropriate Schiff bases having the donor groups (O,N) viz., bis[3-(1'-naphthyl)salicylidene]cyclohexanediamine (L1) or bis[3-(1'-naphthyl)salicylidene]propylenediamine (L2) or bis[3-(1'-naphthyl)salicylidene]phenylenediamine (L3) in 1:1 molar ratio. The characterization of the complex was done by elemental analyses and spectral (IR, UV-visible and EPR), electrochem. and magnetic moment data. An octahedral structure was tentatively proposed for all the new complexes. The catalytic and antibacterial activities also were carried out for these new complexes.

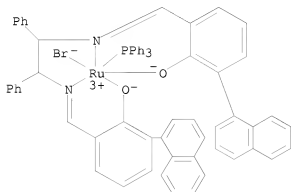
IT 663153-76-2P

RL: BSU (Biological study, unclassified); CPS (Chemical process); PEP

(Physical, engineering or chemical process); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent) (preparation and cyclic voltammetry and antibacterial activity and oxidation catalyst for chlorobenzaldehyde)

RN 663153-76-2 CAPLUS

CN Ruthenium, bromo[[2,2'-[[[(1S,2S)-1,2-diphenyl-1,2-ethanediyl]bis[(nitrilo-κN)methylidene]]bis[5-(1-naphthalenyl)phenolato-κO]](2-)](triphenylphosphine)-, (OC-6-24)- (9CI) (CA INDEX NAME)

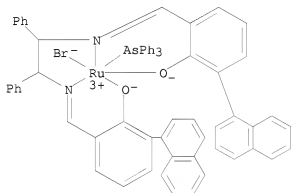


IT 663153-75-1P

RL: BSU (Biological study, unclassified); CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process) (preparation and cyclic voltammetry and antibacterial activity of)

RN 663153-75-1 CAPLUS

CN Ruthenium, bromo[[1,1'-[[[(1S,2S)-1,2-diphenyl-1,2-ethanediyl]bis[(nitrilo-κN)methylidene]]bis[5-(1-naphthalenyl)phenolato-κO]](2-)](triphenylarsine)-, (OC-6-24)- (9CI) (CA INDEX NAME)



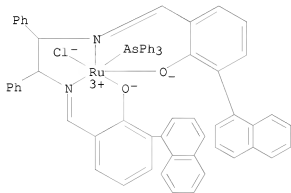
IT 663153-74-0P

RL: CAT (Catalyst use); CPS (Chemical process); PEP (Physical, engineering

or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)  
(preparation and cyclic voltammetry and oxidation catalyst for chlorobenzaldehyde)

RN 663153-74-0 CAPLUS

CN Ruthenium, chloro[[1,1'-[[[(1S,2S)-1,2-diphenyl-1,2-ethanediyl]bis{[nitrilo- $\kappa$ N)methylidene]]bis[5-(1-naphthalenyl)phenolato- $\kappa$ O]](2-)](triphenylarsine)-, (OC-6-24)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 24 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2003:537742 CAPLUS

DOCUMENT NUMBER: 139:373625

TITLE: Bis(methoxyethyl)dimethylphosphine ruthenium(II)

complexes as transfer hydrogenation catalysts

AUTHOR(S): Lu, Zhong-Lin; Eichele, Klaus; Warad, Ismail; Mayer, Hermann A.; Lindner, Ekkehard; Jiang, Zheng-jing; Schurig, Volker

CORPORATE SOURCE: Inst. Anorganische Chemie, Tuebingen, Germany

SOURCE: Zeitschrift fuer Anorganische und Allgemeine Chemie (2003), 629(7-8), 1308-1315

CODEN: ZAACAB; ISSN: 0044-2313

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 139:373625

AB Ten diamineruthenium(II) complexes containing the hemilabile (2-methoxyethyl)dimethylphosphine ligand, [Cl<sub>2</sub>Ru(L)( $\eta$ 1-Me<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub>OMe)<sub>2</sub>], were synthesized from the starting materials Me<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub>OMe, [Ru(COD)Cl<sub>2</sub>]<sub>n</sub>, and the resp. diamines L. The structure of [Cl<sub>2</sub>Ru(1,2-diaminocyclohexane)( $\eta$ 1-Me<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub>OMe)<sub>2</sub>] reveals that two chlorides are in trans position while in [Cl<sub>2</sub>Ru(2,2'-bipyridine)( $\eta$ 1-Me<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub>OMe)<sub>2</sub>] the two chlorides favor a cis configuration. Most of the complexes are highly catalytically active in the hydrogen transfer reduction of acetophenone. The replacement of Ph groups for Me functions in the ether-phosphine ruthenium(II) complexes resulted in a switch of the hydrogenation mechanism from direct hydrogenation to transfer hydrogenation. The reason is attributed to the

better donor ability of Me groups compared to Ph substituents. Thus, the metal center becomes more electron-rich and inhibits the binding of dihydrogen to the ruthenium(II) complex fragment.

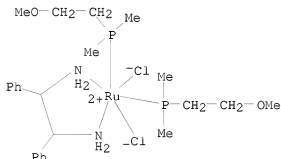
IT 528522-16-9

RL: CAT (Catalyst use); USES (Uses)

(catalytic activity in transfer hydrogenation of acetophenone)

RN 528522-16-9 CAPLUS

CN Ruthenium, dichloro[(1R,2R)-1,2-diphenyl-1,2-ethanediamine-κN,κN']bis[(2-methoxyethyl)dimethylphosphine-κP]-, (OC-6-13)- (9CI) (CA INDEX NAME)



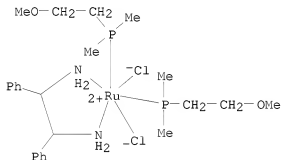
IT 620173-91-3P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(preparation and catalytic activity in transfer hydrogenation of acetophenone)

RN 620173-91-3 CAPLUS

CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-κN,κN']bis[(2-methoxyethyl)dimethylphosphine-κP]-, (OC-6-13)- (9CI) (CA INDEX NAME)



REFERENCE COUNT:

38

THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 25 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN

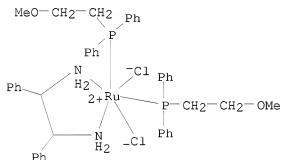
ACCESSION NUMBER: 2003:483146 CAPLUS

DOCUMENT NUMBER: 139:373586

TITLE: Supported organometallic complexes Part 34: synthesis and structures of an array of

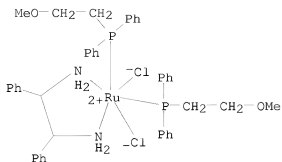
diamine(ether-phosphine)ruthenium(II) complexes and their application in the catalytic hydrogenation of trans-4-phenyl-3-butene-2-one  
 AUTHOR(S): Lindner, Ekkehard; Warad, Ismail; Eichele, Klaus; Mayer, Hermann A.  
 CORPORATE SOURCE: Institut fuer Anorganische Chemie der Universitaet Tuebingen, Tuebingen, D-72076, Germany  
 SOURCE: Inorganica Chimica Acta (2003), 350, 49-56  
 CODEN: ICHAA3; ISSN: 0020-1693  
 PUBLISHER: Elsevier Science B.V.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 139:373586

AB The novel diamine-bis(ether-phosphine)ruthenium(II) complexes  $\text{Cl}_2\text{Ru}(\eta^1\text{-Ph}_2\text{PCH}_2\text{CH}_2\text{OCH}_3)_2(\text{diamine})_2$  (I) were obtained by reaction of equimolar amts. of  $\text{Cl}_2\text{Ru}(\text{Ph}_2\text{PCH}_2\text{CH}_2\text{OCH}_3)_2$  (2) with the 11 diamines in good yields. X-ray structural studies of I (diamine = trans cyclohexanediamine, 2,2-dimethyl-1,3-propanediamine) show monoclinic unit cells with the space group  $\text{P}2_1/\text{c}$ . The octahedrally coordinated Ru atoms have each two trans-chlorides and cis-phosphines which is in agreement with NMR studies in solution. With the exception of I (diamine = 4-methyl-1,2-benzenediamine) the Ru complexes are highly catalytically active in the hydrogenation of the  $\alpha,\beta$ -unsatd. ketone trans-4-phenyl-3-butene-2-one. In most cases the conversions and selectivities toward the formation of the unsatd. alc. trans-4-phenyl-3-butene-2-ol were 100% with high turnover frequencies under mild conditions.  
 IT 590365-41-6P 590384-39-7P  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (preparation of ruthenium ether phosphine diamine complexes as hydrogenation catalysts for trans-4-phenyl-3-butene-2-one)  
 RN 590365-41-6 CAPLUS  
 CN Ruthenium, dichloro[(1R,2R)-1,2-diphenyl-1,2-ethanediamine- $\kappa\text{N},\kappa\text{N}'$ ]bis[(2-methoxyethyl)diphenylphosphine- $\kappa\text{P}$ ]-, (OC-6-13)- (9CI) (CA INDEX NAME)



RN 590384-39-7 CAPLUS  
 CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine- $\kappa\text{N},\kappa\text{N}'$ ]bis[(2-methoxyethyl)diphenylphosphine- $\kappa\text{P}$ ]-, (OC-6-13)- (9CI) (CA INDEX NAME)





REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 26 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2003:273130 CAPLUS

DOCUMENT NUMBER: 139:214151

TITLE: Asymmetric hydrogenation of an  $\alpha,\beta$ -unsaturated ketone by diamine(ether-phosphine)ruthenium(II) complexes and lipase-catalyzed kinetic resolution: a consecutive approach

AUTHOR(S): Lindner, Ekkehard; Ghanem, Ashraf; Warad, Ismail; Eichele, Klaus; Mayer, Hermann A.; Schurig, Volker  
CORPORATE SOURCE: Institute of Inorganic Chemistry, University of Tübingen, Tübingen, 72076, Germany

SOURCE: Tetrahedron: Asymmetry (2003), 14(8), 1045-1053  
CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 139:214151

AB The  $\text{RuCl}_2(\eta^1\text{-Ph}_2\text{PCH}_2\text{CH}_2\text{OCH}_3)_2$  (diamine) complexes have been prepared in high yields from the reaction of equimolar amts. of  $\text{RuCl}_2(\eta^2\text{-Ph}_2\text{PCH}_2\text{CH}_2\text{OCH}_3)_2$  with various kinds of chelating diamines to form five-membered chelates with ruthenium. These novel ruthenium(II) complexes have been used as catalysts in the asym. hydrogenation of the prochiral ketone trans-4-phenyl-3-buten-2-one (I), using 2-propanol and different types of cocatalysts. Whereas complexes with achiral diamines afforded the racemic alcs., complexes with chiral diamines (R,R or S,S) allowed the formation of the corresponding enantiomerically enriched secondary alc. (S or R) with ee values of 45%. In order to obtain the secondary alc. with ee of >99%, the kinetic resolution of enantiomerically enriched I was performed in a consecutive approach using either the lipase-catalyzed enantioselective transesterification of the alc. with isopropenyl acetate as the acyl donor in toluene or the enantioselective hydrolysis of the corresponding acetate in buffer. The determination of the enantiomeric excess (ee) of the resulting enantiomerically enriched secondary alcs. was performed by gas chromatog. using heptakis(2,3-di-O-methyl-6-O-tert-butylidimethylsilyl)- $\beta$ -cyclodextrin as the chiral stationary phase.

IT 590384-39-7P

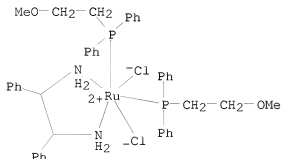
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(asym. hydrogenation of an  $\alpha,\beta$ -unsatd. ketone by

diamine(ether-phosphine)ruthenium(II) complexes and lipase-catalyzed kinetic resolution)

RN 590384-39-7 CAPLUS

CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-κN,κN']bis[(2-methoxyethyl)diphenylphosphine-κP]-, (OC-6-13)- (9CI) (CA INDEX NAME)

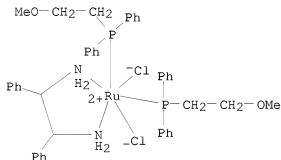


IT 590365-41-6P

RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(crystal structure; asym. hydrogenation of an α,β-unsatd. ketone by diamine(ether-phosphine)ruthenium(II) complexes and lipase-catalyzed kinetic resolution)

RN 590365-41-6 CAPLUS

CN Ruthenium, dichloro[(1R,2R)-1,2-diphenyl-1,2-ethanediamine-κN,κN']bis[(2-methoxyethyl)diphenylphosphine-κP]-, (OC-6-13)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

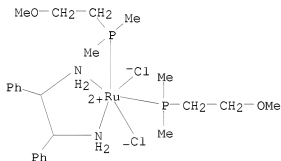
L14 ANSWER 27 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2003:95859 CAPLUS

DOCUMENT NUMBER: 138:394848

TITLE: Supported organometallic complexes. Part 37: synthesis and structures of diamine-bis(methoxyethyldimethylphosphine)ruthenium(II) complexes

AUTHOR(S): Lu, Zhong-Lin; Eichele, Klaus; Lindner, Ekkehard; Mayer, Hermann A.  
 CORPORATE SOURCE: Institut fuer Anorganische Chemie, Universitaet Tuebingen, Tuebingen, 72076, Germany  
 SOURCE: Inorganic Chemistry Communications (2003), 6(4), 365-369  
 CODEN: ICCOFP; ISSN: 1387-7003  
 PUBLISHER: Elsevier Science B.V.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 138:394848  
 AB The 1st two examples of diamineruthenium(II) complexes containing the hemilabile (methoxyethyl)dimethylphosphine ligand,  $\text{Cl}_2\text{Ru}(\text{en})(\eta^1\text{-Me}_2\text{PCH}_2\text{CH}_2\text{OMe})_2$  (2a) and  $\text{Cl}_2\text{Ru}[(\text{R,R})\text{-dppe}](\eta^1\text{-Me}_2\text{PCH}_2\text{CH}_2\text{OMe})_2$  (2b) (en = 1,2-diaminoethane, (R,R)-dppe = 1R,2R-1,2-diamino-1,2-diphenylethane) were synthesized and structurally characterized.  
 IT 528522-16-9P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (preparation and crystal structure)  
 RN 528522-16-9 CAPLUS  
 CN Ruthenium, dichloro[(1R,2R)-1,2-diphenyl-1,2-ethanediamine- $\kappa\text{N},\kappa\text{N}'$ ]bis[(2-methoxyethyl)dimethylphosphine- $\kappa\text{P}$ ]-, (OC-6-13)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 28 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:868270 CAPLUS

DOCUMENT NUMBER: 138:303950

TITLE: (Salen)ruthenium-catalyzed desymmetrization of meso-diols: catalytic aerobic asymmetric oxidation under photo-irradiation

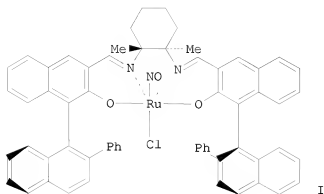
AUTHOR(S): Shimizu, Hideki; Nakata, Kenya; Katsuki, Tsutomu  
 CORPORATE SOURCE: Department of Chemistry, Faculty of Science, Graduate School, Kyushu University 33, CREST, Japan Science and Technology (JST), Fukuoka, 812-8581, Japan  
 SOURCE: Chemistry Letters (2002), (11), 1080-1081  
 CODEN: CMLTAG; ISSN: 0366-7022

PUBLISHER: Chemical Society of Japan

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 138:303950  
GI



AB Catalytic aerobic oxidation of meso-diols using (nitrosyl)-Ru(salen) I as the catalyst under photo-irradiation proceeded with moderate enantioselectivity (up to 67% ee) to give the corresponding lactols.

IT 313401-38-6

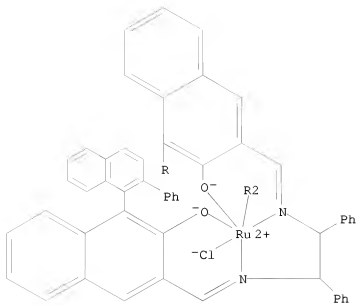
RL: CAT (Catalyst use); USES (Uses)

(desymmetrization of meso-diols by (salen)ruthenium-catalyzed aerobic asym. oxidation under photo-irradiation)

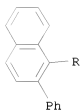
RN 313401-38-6 CAPLUS

CN Ruthenium, chloro[[ (1R,1''R)-3,3''-[[ (1R,2R)-1,2-diphenyl-1,2-ethanediyl]bis[(nitrilo-κN)methylidyne]]bis[2'-phenyl[1,1'-binaphthalen]-2-olato-κO]](2-)]nitrosyl-, (OC-6-34)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 29 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2002:397832 CAPLUS  
 DOCUMENT NUMBER: 136:401527  
 TITLE: Method for preparation of optically active ruthenium complexes and optically active alcohols using them  
 INVENTOR(S): Hirayama, Naoki; Shibayama, Katsuhiro  
 PATENT ASSIGNEE(S): Toray Industries, Inc., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

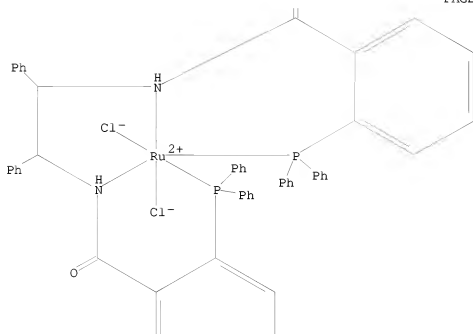
DOCUMENT TYPE: CODEN: JKXXAF  
 LANGUAGE: Patent  
 FAMILY ACC. NUM. COUNT: Japanese  
 PATENT INFORMATION: 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002155096	A	20020528	JP 2001-130609	20010427
PRIORITY APPLN. INFO.:			JP 2000-142484	A 20000515
OTHER SOURCE(S):		CASREACT 136:401527; MARPAT 136:401527		

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

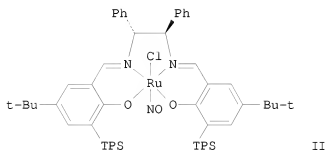
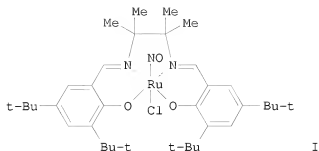
- AB Optically active alcs. are prepared by asym. reduction (asym. hydrogenation) of a wide range of carbonyl compds. such as aliphatic carbonyl compds. (typically  $\beta$ -keto esters) and aromatic ketones using an asym. reducing agent having a readily available and inexpensive optically active amide as the asym. source. In particular, optically active tetradentate ruthenium complexes consisting of ruthenium and an optically active compound having two phosphines and two amide linkages in the same mol. [I and II; R1 = H, (un)substituted hydrocarbyl; R2 and R3 are same or different group selected from H and (un)substituted hydrocarbyl; Y = Ph, Me, Et, Pr, cyclohexyl] are used for the above asym. reduction. Thus, 1.51 g (R,R)-N,N'-bis[o-(diphenylphosphino)benzoyl]cyclohexane-1,2-diamine (preparation given) and 1.15 g ruthenium(II) dichloride di-Me sulfide complex were added to 200 mL toluene and refluxed for 5 h under N to give 70% ruthenium complex (III). III (146 mg), 3.95 g 4-chloro-3-oxobutanoic acid Et ester, 32 mg KOH were added to 30 mL ethanol in a 100-mL autoclave under Ar and vigorously stirred at 100° under H atmospheric at 10 atm to give 95% (S)-4-chloro-3-hydroxybutanoic acid Et ester (19% ee).
- IT 431877-91-7P  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);  
 USES (Uses)  
 (method for preparation of optically active ruthenium complexes and optically active alcs. by asym. reduction (hydrogenation) of ketones using them)
- RN 431877-91-7 CAPLUS
- CN Ruthenium, dichloro[N,N'-(1,2-diphenyl-1,2-ethanediyl)bis[2-(diphenylphosphino-kP)benzamide-kN]]- (CA INDEX NAME)





L14 ANSWER 30 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN  
ACCESSION NUMBER: 2002:303917 CAPLUS  
DOCUMENT NUMBER: 137:294842  
TITLE: Catalytic aerobic oxidation of diols under  
photoirradiation: highly efficient synthesis of  
lactols  
AUTHOR(S): Miyata, Atsushi; Furukawa, Mizuki; Irie, Ryo; Katsuki,  
Tsutomu  
CORPORATE SOURCE: Graduate School, Faculty of Science, Department of  
Chemistry, Kyushu University 33 CREST, JST (Japan  
Science and Technology), Higashi-ku, Fukuoka,  
812-8581, Japan  
SOURCE: Tetrahedron Letters (2002), 43(19), 3481-3484  
CODEN: TELEAY; ISSN: 0040-4039  
PUBLISHER: Elsevier Science Ltd.  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
OTHER SOURCE(S): CASREACT 137:294842  
GI





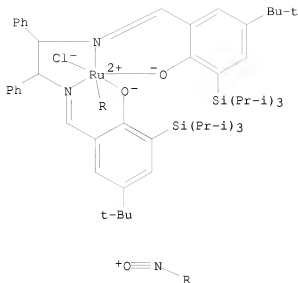
AB Aerobic oxidation of 1,n- and 1,e-diols with (ON)Ru(salen) complex I as catalyst was found to give lactols in almost quant. yields. Furthermore, in the oxidation of 2,2-dimethylalkane-1,e-diols, less sterically hindered e-alcs. were found to be preferentially oxidized when (ON)Ru(salen) complex II was used as the catalyst. N-Decanol was preferentially oxidized in the presence of 2,2-dimethyl-1-propanol when II was the catalyst.

IT 470464-92-7

RL: CAT (Catalyst use); USES (Uses)  
(catalytic aerobic oxidation of diols under photoirradn. for highly efficient synthesis of lactols)

RN 470464-92-7 CAPLUS

CN Ruthenium, chloro[[rel-2,2'-[[[(1R,2R)-1,2-diphenyl-1,2-ethanediyl]bis[(nitrilo-kN)methylidyne]]bis[4-(1,1-dimethylethyl)-6-[tris(1-methylethyl)silyl]phenolato-kO]](2-)]nitrosyl-, (OC-6-34)-(9CI) (CA INDEX NAME)



REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 31 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:205043 CAPLUS

DOCUMENT NUMBER: 136:247412

TITLE: Preparation of optically-active 2,2'-binaphthol derivatives

INVENTOR(S): Kazuki, Tsutomu

PATENT ASSIGNEE(S): Nissan Chemical Industries, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

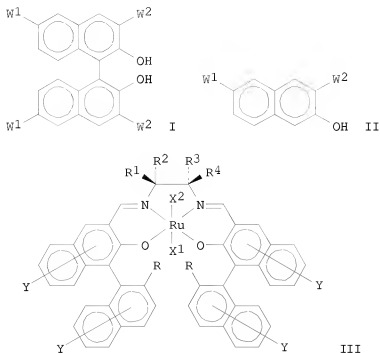
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002080415	A	20020319	JP 2000-266380	20000904
PRIORITY APPLN. INFO.:			JP 2000-266380	20000904
OTHER SOURCE(S):			CASREACT 136:247412; MARPAT 136:247412	

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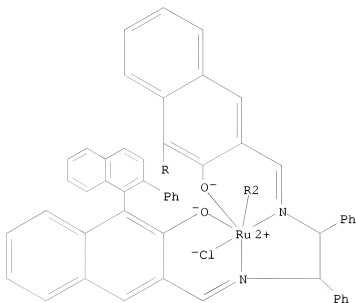


AB The title optically active derivs. I [W1, W2 = H, C1-6 alkyl, cycloalkyl, C2-6 alkenyl, cycloalkenyl, C2-6 alkynyl, cycloalkynyl (these aliphatic group may be substituted with halo, silyl, Ph), C1-6 alkoxy, Ph, C1-5 alkylcarbonyl, C1-5 alkoxycarbonyl, halo; Ph may be substituted with halo, C1-4 alkyl, C1-4 alkoxy, cyano, NO<sub>2</sub>] or their enantiomers, useful as synthetic intermediates and chiral ligands, are prepared by treating 2-naphthol derivs. II (W1, W2 = same as above) with O-containing gas in the presence of optically active Ru complexes III [R1-R4 = H, C1-8 (halo)alkyl, (halo)cycloalkyl, Ph which may be substituted with halo, C1-4 alkyl, C1-4 alkoxy, cyano, NO<sub>2</sub>; 2 of R1-R4 may be bonded together to form a C4-8 ring; R = any group given for R1-R4, C1-4 alkoxy, C1-5 alkylcarbonyl, C1-5 alkylcarbonyloxy, C1-5 alkoxycarbonyl, substituted silyl; X1, X2 = C1-5 (halo)alkylcarbonyloxy, (halo)arylcabonyloxy, C1-4 (halo)alkylsulfonyloxy, (halo)arylsulfonyloxy, halo, OH, PF<sub>6</sub>, ClO<sub>4</sub>, BF<sub>4</sub>, NO<sub>3</sub>, 1/2CO<sub>3</sub>, 1/2SO<sub>4</sub>, 1/3PO<sub>4</sub>, NO; Y = H, halo, C1-4 alkyl, C1-4 alkoxy, NO<sub>3</sub>, cyano] and light. A mixture of 6-bromo-2-naphthol, optically active Ru complex IV (preparation given), and toluene was stirred under irradiation with

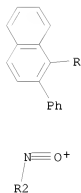
a  
halogen lamp at 25° for 24 h to give  
(R)-6,6'-dibromo-2,2'-dihydroxynaphthalene with 68% e.e.  
IT 313401-38-6P  
RL: CAT (Catalyst use); IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(preparation of optically active binaphthols by photochem. coupling of naphthols using Ru complexes)  
RN 313401-38-6 CAPLUS  
CN Ruthenium, chloro[[ (1R,1''R)-3,3'''-[[ (1R,2R)-1,2-diphenyl-1,2-ethenediyl]bis[(nitrilo-κN)methylidyne]]bis[2'-phenyl[1,1'-

binaphthalen]-2-olato-κO]](2-)]nitrosyl-, (OC-6-34)- (9CI) (CA  
INDEX NAME)

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L14 ANSWER 32 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2002:56179 CAPLUS  
 DOCUMENT NUMBER: 136:369625  
 TITLE: Asymmetric cyclization via oxygen cation radical:  
 enantioselective synthesis of  
 cis-4b,9b-dihydrobenzofuro[3,2-b]benzofurans  
 AUTHOR(S): Masutani, Kouta; Irie, Ryo; Katsuki, Tsutomu

CORPORATE SOURCE: Department of Chemistry, Faculty of Science, Graduate School, Kyushu University, 33, CREST. Japan Science and Technology (JST), Hakozaki, Higashi-ku, Fukuoka, 812-8581, Japan

SOURCE: Chemistry Letters (2002), (1), 36-37  
CODEN: CMLTAG; ISSN: 0366-7022

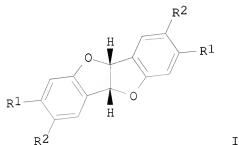
PUBLISHER: Chemical Society of Japan

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 136:369625

GI



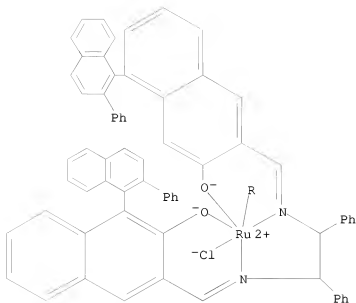
AB Aerobic oxidative cyclization of 2,2'-dihydroxystilbenes via oxygen cation radical to give cis-4b,9b-dihydrobenzofuro[3,2-b]benzofurans, e.g., I (R1 = Me, R2 = H; R1 = H, R2 = Me), was carried out in an enantioselective manner (up to 89% ee) by using a (nitrosyl)Ru(salen) complex as the catalyst under photo-irradiation conditions.

IT 425368-85-0  
RL: CAT (Catalyst use); USES (Uses)  
(asym. photocyclization of dihydroxystilbenes to cis-4b,9b-dihydrobenzofuro[3,2-b]benzofurans with nitrosylruthenium salen catalyst)

RN 425368-85-0 CAPLUS

CN Ruthenium, chloro[3-[[[(1R,2R)-2-[[[7-(hydroxy-κO)-2'-phenyl[1,1'-binaphthalen]-6-yl]methylene]amino-κN]-1,2-diphenylethyl]imino-κN]methyl]-2'-phenyl[1,1'-binaphthalen]-2-olato(2-)-κO]nitrosyl-, (OC-6-34)- (9CI) (CA INDEX NAME)

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REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 33 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2002:51478 CAPLUS  
 DOCUMENT NUMBER: 136:102515  
 TITLE: Preparation of catalysts for asymmetric transfer hydrogenation, and use thereof  
 INVENTOR(S): Van den Berg, Michel; Minnaard, Adriaan Jacobus; Feringa, Ben; Gerardus de Vries, Johannes  
 PATENT ASSIGNEE(S): DSM N.V., Neth.  
 SOURCE: PCT Int. Appl., 27 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002004466	A2	20020117	WO 2001-NL517	20010706

WO 2002004466 A3 20020328  
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NZ, OL, OS, PA, PE, PG, PH, PI, PJ, PK, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW  
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  
NL 1015655 C2 20020108 NL 2000-1015655 20000707  
CA 2414202 A1 20020117 CA 2001-2414202 20010706  
AU 2001071145 A 20020121 AU 2001-71145 20010706  
EP 1325013 A2 20030709 EP 2001-950115 20010706  
EP 1325013 B1 20060913  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR  
CN 1440416 A 20030903 CN 2001-812391 20010706  
CN 1289515 C 20061213  
JP 2004502543 T 20040129 JP 2002-509330 20010706  
HU 2004000519 A2 20040628 HU 2004-519 20010706  
HU 2004000519 A3 20051028  
CN 1827214 A 20060906 CN 2006-10066948 20010706  
AT 339430 T 20061015 AT 2001-950115 20010706  
ES 2271043 T3 20070416 ES 2001-950115 20010706  
CN 1974010 A 20070606 CN 2006-10149973 20010706  
IN 2003CN00015 A 20050408 IN 2003-CN15 20030103  
US 20030199713 A1 20031023 US 2003-332403 20030107  
US 6989461 B2 20060124

PRIORITY APPLN. INFO.:

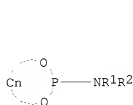
NL 2000-1015655 A 20000707

CN 2001-812391 A3 20010706

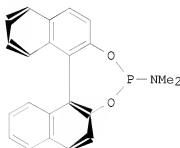
WO 2001-NL517 W 20010706

OTHER SOURCE(S): CASREACT 136:102515; MARPAT 136:102515

GI



I



II

AB Catalyst for asym. (transfer) hydrogenation represented by the formula  $M\text{LaXbSc}$ , [where M = rhodium or ruthenium; X = counter ion such as Cl, Br, BF<sub>4</sub>, etc.; S = ligand such as COD, NBD, cyclopentadienyl, etc.; a = 0.5 to 3; b and c, each independently, = 0 to 2; L = chiral ligand I, where Cn together with the two 2 O-atoms and the P-atom forms a substituted or non-substituted ring with 2-4 C-atoms, R1 and R2 each independently = H, an optionally substituted alkyl, aryl, alkaryl or aralkyl group or may

form a (heterocyclic) ring together with the N-atom to which they are bound], are described. A process for the use of such catalyst systems in the asym. (transfer) hydrogenation of olefinically unsatd. compds., or ketone, imine or oxime derivs., in the presence of a hydrogen donor, is also discussed. Thus, hexamethylphosphorus triamide was reacted with (S)-1,1'-bi-2-naphthol to give 88% (II). Phosphine II, in the presence of Rh(COD)2BF<sub>4</sub>, catalyzes the asym. transfer hydrogenation of 2-acetamidocinnamic acid Me ester with >98% conversion and >97% ee.

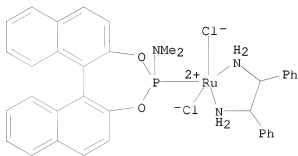
IT 389117-12-8

RL: CAT (Catalyst use); FMU (Formation, unclassified); FORM (Formation, nonpreparative); USES (Uses)

(preparation of catalysts for asym. transfer hydrogenation, and use thereof)

RN 389117-12-8 CAPLUS

CN Ruthenium, dichloro(N,N-dimethyldinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin-4-amine-κP4)(1,2-diphenyl-1,2-ethanediamine-κN,κN')- (9C1) (CA INDEX NAME)



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 34 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:51414 CAPLUS

DOCUMENT NUMBER: 136:102282

TITLE: Process for the preparation of β-amino alcohols in syn configuration by diastereoselective hydrogenation of α-amino carbonyl compounds

INVENTOR(S): Inoue, Tsutomu; Katayama, Eiji; Ooka, Hirohito; Sato, Daisuke

PATENT ASSIGNEE(S): Nippon Soda Co., Ltd., Japan

SOURCE: PCT Int. Appl., 32 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002004401	A1	20020117	WO 2001-JP5941	20010709
W: CN, IN, JP, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
PRIORITY APPLN. INFO.:			JP 2000-208664	A 20000710



## OTHER SOURCE(S):

CASREACT 136:102282; MARPAT 136:102282

AB Described is a process for the preparation of  $\beta$ -amino alcs. in syn configuration as represented by the general formula  $\text{RaC}^*\text{H}(\text{OH})\text{CH}(\text{Rb})\text{Rc}$  [wherein Ra and Rc are each optionally substituted alkyl, cycloalkyl, alkenyl, aralkyl, aryl, or aryloxy; Rb is a group selected from among those represented by the formulas  $\text{R1CO}(\text{R2})\text{N-}$ ,  $\text{R1CO}(\text{R1}'\text{CO})\text{N-}$ ,  $\text{R1SO2}(\text{R2})\text{N-}$ , and  $\text{R1R2N-}$  (wherein R1, R1', and R2 are hydrogen, each optionally substituted alkyl, alkoxy, cycloalkyl, cycloalkoxy, alkenyl, alkenyloxy, aralkyl, aralkyloxy, aryl, or aryloxy, or R1 and R2 or R1 and R1' are linked together to form a 5 to 8-membered heterocyclic ring; provided that when R2 is hydrogen, R1 is not alkoxy, cycloalkoxy, aryloxy, or aralkyloxy.); and C\* represents an asym. carbon atom], which comprises reacting an  $\alpha$ -amino carbonyl compound of the general formula  $\text{RaCOCH}(\text{Rb})\text{Rc}$  (Ra, Rb, and Rc are same above) with hydrogen or a hydrogen donor in the presence of a transition metal compound and a base. Starting from readily available racemic  $\alpha$ -amino carbonyl compds., this process gives syn- $\beta$ -amino alcs. in high yields with high diastereoselectivity and enantioselectivity. Thus, 10 mL 2-propanol, 4 mL toluene, 5.6 mg [(S)-Xyl-1-BINAP]Ru(II)Cl<sub>2</sub>[(S,S)-DPEN] [Xyl-1-BINAP = 2,2'-bis(di-3,5-dimethylphenylphosphino)-1,1'-binaphthyl; DPEN = diphenylethylenediamine], 0.5 N tBuOK/2-propanol (2.0 mL), 1.40 g 2-phthalimidopropiophenone were added to a metal autoclave, pressurized with H<sub>2</sub> at 100 atm, and stirred at 25° for 18 h to give 79% syn-(+)-2-phthalimido-1-phenyl-1-propanol (96% ee).

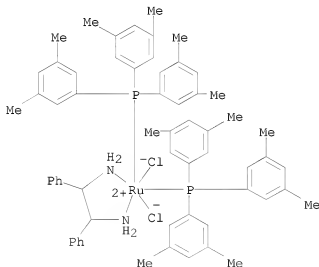
IT 320338-30-5

RL: CAT (Catalyst use); USES (Uses)

(preparation of  $\beta$ -amino alcs. in syn configuration by diastereoselective hydrogenation of  $\alpha$ -amino carbonyl compds.)

RN 320338-30-5 CAPLUS

CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-  
 $\text{rN},\text{rN}'$ ]bis[tris(3,5-dimethylphenyl)phosphine]-, (OC-6-13)-  
 (9CI) (CA INDEX NAME)



REFERENCE COUNT:

6

THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 35 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2001:767505 CAPLUS  
 DOCUMENT NUMBER: 135:331550  
 TITLE: Preparation of amino compounds containing phosphines  
 and their ruthenium complexes for alcohol synthesis  
 INVENTOR(S): Hirayama, Naoki; Shibayama, Katsuhiko  
 PATENT ASSIGNEE(S): Toray Industries, Inc., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001294594	A	20011023	JP 2001-27792	20010205
PRIORITY APPLN. INFO.:			JP 2000-34129	A 20000210
OTHER SOURCE(S):		CASREACT 135:331550; MARPAT 135:331550		

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Complexes of ruthenium(II) and amino compds. I [R1, R2 = H, noncyclic hydrocarbyl, (un)substituted Ph; Ar = (un)substituted Ph; if R1 = R2 = H, then Ar ≠ Ph], II [R3 = noncyclic hydrocarbyl, (un)substituted Ph; R4, R5 = H, noncyclic hydrocarbyl, (un)substituted Ph; Ar = same as I], III [R6 = H, noncyclic hydrocarbyl, (un)substituted Ph; n = 0-1; Ar = same as I], or IV (R3, R6, Ar, n = same as above) are prepared. Alcs. are prep'd by reduction of ketones with hydrogen in the presence of the above complexes. E.g., (R,R)-N,N'-bis[2-(diphenylphosphino)benzyl]cyclohexane-1,2-diamine was reacted with dichlororuthenium-dimethylsulfoxide complex for 6 h to give a complex, in the presence of which acetophenone was hydrogenated with H2 in EtOH at 100° for 4 h to give ≥99% (S)-1-phenylethyl alc.

IT 369378-18-7P  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);  
 USES (Uses)  
 (catalyst; preparation of amino compds. containing phosphines and their ruthenium complexes for alc. synthesis)

RN 369378-18-7 CAPLUS

CN Ruthenium, [(1R,2R)-N,N'-bis[[2-(diphenylphosphino-κP)phenyl]methyl]-1,2-diphenyl-1,2-ethanediamine-κN,κN']dichloro-, (OC-6-13)-(9CI) (CA INDEX NAME)



PRIORITY APPLN. INFO.:

JP 1999-117238

A 19990423

OTHER SOURCE(S): CASREACT 134:100642; MARPAT 134:100642

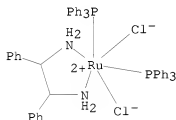
- AB Optically active alcs. represented by formula  $\text{RaC}^*\text{H}(\text{OH})\text{Rb}$  [Ra, Rb = (un)substituted alkyl, alkenyl, cycloalkyl, aralkyl, or aryl] are prepared by hydrogenation of ketones represented by formula  $\text{RaCORb}$  (Ra, Rb = same as above) in the presence of a mixture of a trivalent phosphorus compound not possessing an asym. center within the mol., transition metal compound, and optically active amine or the reaction product obtained from these compds. This process uses optically active amine as the only asym. source and other readily available compds. as the catalyst sources and provides a practical method for producing in high yields and high selectivity in an industrial scale, optically active alcs. which are useful as intermediates for drugs, agrochems., and liquid crystals. Thus, 5.4 mg bis[tris(3,5-xylyl)phosphine] ruthenium dichloride-(1S,2S)-1,2-diphenylethylenediamine complex ( $\text{RuCl}_2[(3,5\text{-xylyl})_3\text{P}]_2(\text{S,S})\text{DPEN}$ ) (preparation given) and 6.44 g acetophenone were dissolved in 8 mL isopropanol in a pressure vessel, treated with t-BuOK/2-propanol (0.5 N, 0.5 mL), pressurized with H at 11 atm, and stirred at room temperature for 18 h to give 100% (R)-1-phenylethanol (87 %ee).
- IT 320338-32-7 320338-33-8 320338-35-0  
320338-36-1 320338-38-3 320338-39-4  
320338-40-7 320338-42-9 320338-44-1  
320338-45-2

RL: CAT (Catalyst use); USES (Uses)

(preparation of optically active alcs. by hydrogenation of carbonyl compds. using transition metal-optically active amine complex)

RN 320338-32-7 CAPLUS

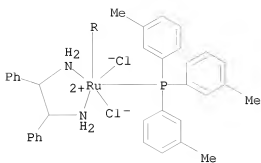
CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine- $\kappa\text{N},\kappa\text{N}'$ ]bis(triphenylphosphine)-, (OC-6-13)- (9CI) (CA INDEX NAME)



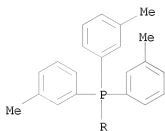
RN 320338-33-8 CAPLUS

CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine- $\kappa\text{N},\kappa\text{N}'$ ]bis[tris(3-methylphenyl)phosphine]-, (OC-6-13)- (9CI) (CA INDEX NAME)

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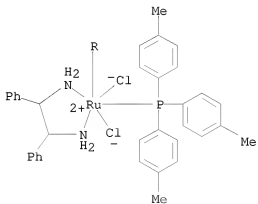
PAGE 2-A

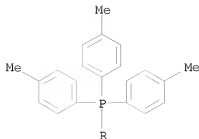


RN 320338-35-0 CAPLUS

CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-  
κN,κN']bis[tris(4-methylphenyl)phosphine]-, (OC-6-13)- (9CI)  
(CA INDEX NAME)

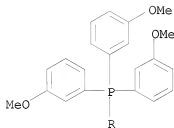
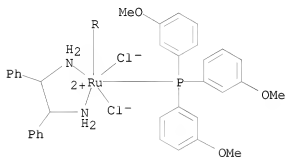
PAGE 1-A





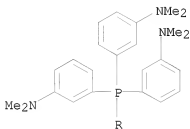
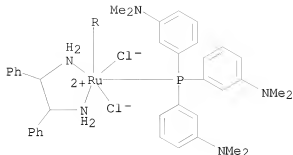
RN 320338-36-1 CAPLUS

CN Ruthenium, dichloro[(1*S*,2*S*)-1,2-diphenyl-1,2-ethanediamine- $\kappa$ N, $\kappa$ N']bis[tris(3-methoxyphenyl)phosphine- $\kappa$ P]-,  
(OC-6-13)- (9CI) (CA INDEX NAME)



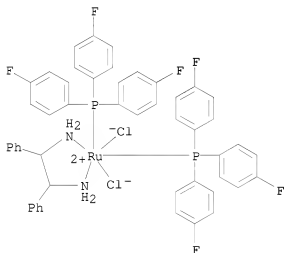
RN 320338-38-3 CAPLUS

CN Ruthenium, dichloro[(1*S*,2*S*)-1,2-diphenyl-1,2-ethanediamine- $\kappa$ N, $\kappa$ N']bis[3,3',3''-(phosphinidyne- $\kappa$ P)tris[N,N-dimethylbenzenamine]]-, (OC-6-13)- (9CI) (CA INDEX NAME)



RN 320338-39-4 CAPLUS

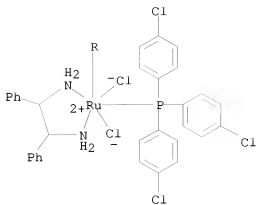
CN Ruthenium, dichloro[(1*S*,2*S*)-1,2-diphenyl-1,2-ethanediamine-  
κN,κN']bis[tris(4-fluorophenyl)phosphine-κP]-,  
(OC-6-13)- (9CI) (CA INDEX NAME)



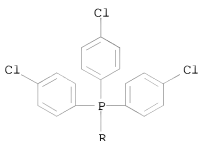
RN 320338-40-7 CAPLUS

CN Ruthenium, dichloro[(1*S*,2*S*)-1,2-diphenyl-1,2-ethanediamine-  
κN,κN']bis[tris(4-chlorophenyl)phosphine-κP]-,  
(OC-6-13)- (9CI) (CA INDEX NAME)

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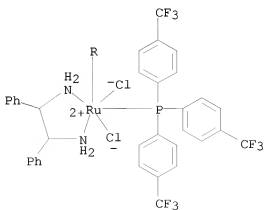


PAGE 2-A



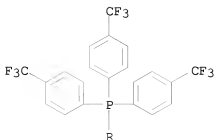
RN 320338-42-9 CAPLUS  
 CN Ruthenium, dichloro[(1*S*,2*S*)-1,2-diphenyl-1,2-ethanediamine- $\kappa$ N, $\kappa$ N']bis[tris[4-(trifluoromethyl)phenyl]phosphine- $\kappa$ P]-, (OC-6-13)- (9CI) (CA INDEX NAME)

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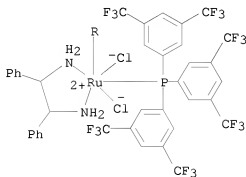
PAGE 2-A



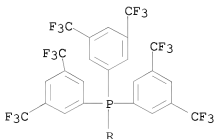
RN 320338-44-1 CAPLUS

CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-  
κN,κN']bis[tris[3,5-bis(trifluoromethyl)phenyl]phosphine-  
κP]-, (OC-6-13)- (9CI) (CA INDEX NAME)

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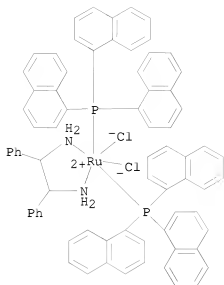


PAGE 2-A



RN 320338-45-2 CAPLUS

CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-  
κN,κN']bis(tri-1-naphthalenylphosphine)-, (OC-6-13)- (9CI)  
(CA INDEX NAME)



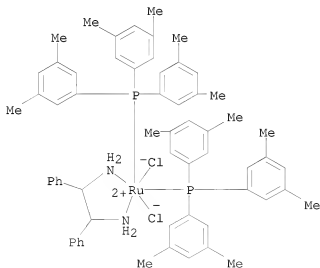
IT 320338-30-5P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);  
USES (Uses)

(preparation of optically active alcs. by hydrogenation of carbonyl compds.  
using transition metal-optically active amine complex)

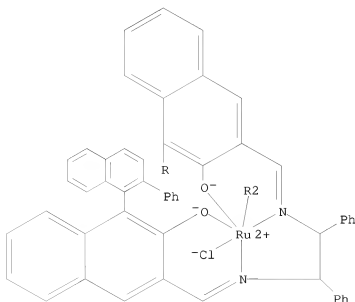
RN 320338-30-5 CAPLUS

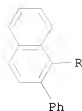
CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-  
κN,κN']bis[tris(3,5-dimethylphenyl)phosphine]-, (OC-6-13)-  
(9CI) (CA INDEX NAME)



L14 ANSWER 37 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2000:737781 CAPLUS  
 DOCUMENT NUMBER: 134:56468  
 TITLE: Asymmetric aerobic oxidative coupling of 2-naphthol derivatives catalyzed by photo-activated chiral (NO)Ru(II)-salen complex  
 AUTHOR(S): Irie, Ryo; Masutani, Kouta; Katsuki, Tsutomu  
 CORPORATE SOURCE: Department of Chemistry, Faculty of Science, Graduate School, Kyushu University 33, Fukuoka, 812-8581, Japan  
 SOURCE: Synlett (2000), (10), 1433-1436  
 CODEN: SYNLES; ISSN: 0936-5214  
 PUBLISHER: Georg Thieme Verlag  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 134:56468  
 AB Optically active 2,2'-binaphthol (BINOL) derivs. were synthesized with moderate to good enantioselectivity via aerobic oxidative coupling of 2-naphthols using a chiral (NO)Ru(II)-salen complex as a catalyst under irradiation with visible light.  
 IT 313401-38-6  
 RL: CAT (Catalyst use); USES (Uses)  
 (asym. aerobic oxidative coupling of naphthols catalyzed by photo-activated ruthenium salen complex)  
 RN 313401-38-6 CAPLUS  
 CN Ruthenium, chloro[[{(1R,1''R)-3,3''-[[{(1R,2R)-1,2-diphenyl-1,2-ethanediyl]bis[(nitrilo-κN)methylidyne]]bis[2'-phenyl[1,1'-binaphthalen]-2-olato-κO]](2-)]nitrosyl-, (OC-6-34)-(9CI) (CA INDEX NAME)

PAGE 1-A





REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 38 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2000:397972 CAPLUS

DOCUMENT NUMBER: 133:192919

TITLE: cis- and Enantio-selective cyclopropanation with

chiral (ON+)Ru-salen complex as a catalyst

Uchida, Tatsuya; Irie, Ryo; Katsuki, Tsutomu

CORPORATE SOURCE: Department of Molecular Chemistry, Graduate School of Science, Kyushu University 33, Fukuoka, 812-8581, Japan

SOURCE: Tetrahedron (2000), 56(22), 3501-3509

CODEN: TETRAB; ISSN: 0040-4020

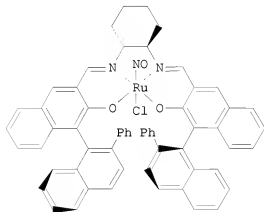
PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 133:192919

GI



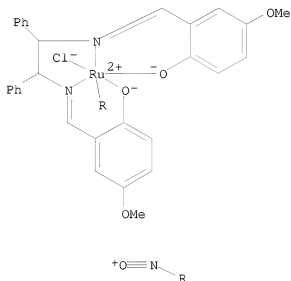
I

AB Cyclopropanation of styrene with  $\alpha$ -diazoacetate in the presence of (R,R)-(salen)ruthenium complex I in THF which dissolves the complex exhibits remarkable cis- and enantio-selectivity [cis:trans = 97:3 > 97% ee (1S,2R)], while the same reaction in hexane which does not dissolve it shows good but opposite sense of enantioselectivity [-83% ee (1R,2S)] together with moderate cis-selectivity (cis:trans = 68:32). In homogeneous and heterogeneous conditions, (salen)ruthenium complexes are considered to have different ligand-conformation which, in turn, causes the opposite sense of enantioface selectivity in the cyclopropanation.

IT 244761-63-5P  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (stereoselective prepn of arylcyclopropanes via cyclopropanation of arylalkenes with chiral (ON+)Ru-salen catalyst)

RN 244761-63-5 CAPLUS

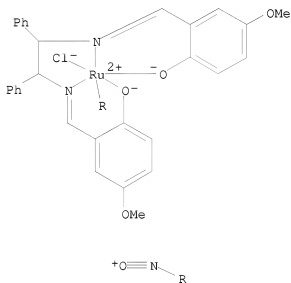
CN Ruthenium, chloro[[2,2'-[[[(1R,2R)-1,2-diphenyl-1,2-ethanediyl]bis[(nitrilo- $\kappa$ N)methylidene]]bis[4-methoxyphenolato- $\kappa$ O]](2-)]nitrosyl-, (OC-6-34)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 39 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1999:444676 CAPLUS  
 DOCUMENT NUMBER: 131:257263  
 TITLE: Chiral (ON)Ru-salen-catalyzed cyclopropanation. High cis- and enantioselectivity  
 AUTHOR(S): Uchida, Tatsuya; Irie, Ryo; Katsuki, Tsutomu  
 CORPORATE SOURCE: Department Molecular Chemistry, Graduate School Science, Kyushu Univ., Fukuoka, 812, Japan  
 SOURCE: Synlett (1999), (7), 1163-1165  
 CODEN: SYNLES; ISSN: 0936-5214  
 PUBLISHER: Georg Thieme Verlag  
 DOCUMENT TYPE: Journal

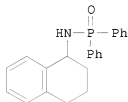
LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 131:257263  
 AB A (R,R)-(nitrosyl)(salen)ruthenium(II) complex was found to be an effective catalyst for cis-selective asym. cyclopropanation ( $\leq 89\%$  ee) which was performed under sunlight coming through a window or incandescent light. Furthermore, a (R,R)-(nitrosyl)(hydroxy)(salen)ruthenium(II) complex was also found to show good cis- and enantioselectivities ( $\leq 92\%$  ee) in the reaction in the dark.  
 IT 244761-63-5  
 RL: CAT (Catalyst use); USES (Uses)  
 (salenruthenium-catalyzed asym. cyclopropanation)  
 RN 244761-63-5 CAPLUS  
 CN Ruthenium, chloro[[2,2'-[[[(1R,2R)-1,2-diphenyl-1,2-ethanediyl]bis[(nitrilo- $\kappa$ N)methylidene]]bis[4-methoxyphenolato- $\kappa$ O]](2-)]nitrosyl-, (OC-6-34)-(9CI) (CA INDEX NAME)



REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 40 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1998:612059 CAPLUS  
 DOCUMENT NUMBER: 129:202750  
 ORIGINAL REFERENCE NO.: 129:41191a, 41194a  
 TITLE: Process for producing optically active amines  
 INVENTOR(S): Mukaiyama, Teruaki; Sugi, Kiyoaki; Nagata, Takushi; Yamada, Toru  
 PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan  
 SOURCE: PCT Int. Appl., 46 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9839276	A1	19980911	WO 1998-JP938	19980306
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 901996	A1	19990317	EP 1998-905797	19980306
EP 901996	B1	20060201		
R: DE, FR, GB, IT, NL				
JP 4004547	B2	20071107	JP 1998-537975	19980306
US 6222072	B1	20010424	US 1998-186626	19981106
PRIORITY APPLN. INFO.:				
			JP 1997-52061	A 19970306
			WO 1998-JP938	W 19980306
OTHER SOURCE(S): CASREACT 129:202750; MARPAT 129:202750				
GI				



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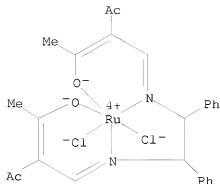
AB Characterized is a novel process for producing optically active amines useful as an intermediate for physiol. active compds. such as medicines and agricultural chems. or as a starting material for synthesizing functional materials, e.g., liquid crystals, fine chems., etc., which comprises the step of reacting an imine with a hydride reagent in the presence of an optically active metal compound and an alc. compound and/or carboxylic acid compound Thus, compound (I) (preparation given) was treated with

IT HCl/MeOH to give 98% 1,2,3,4-tetrahydro-1-naphthylamine with 98% ee.  
212250-97-0

RL: CAT (Catalyst use); USES (Uses)  
(process for producing optically active amines)

RN 212250-97-0 CAPLUS

CN Ruthenium, dichloro[[rel-3,3'-[[[(1R,2R)-1,2-diphenyl-1,2-ethanediyl]bis[(nitrilo-κN)methylidyne]]bis[4-(hydroxy-κO)-3-penten-2-onato]](2-)]-, (OC-6-12)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 41 of 42 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1997:597503 CAPLUS

DOCUMENT NUMBER: 127:293068

ORIGINAL REFERENCE NO.: 127:57283a,57286a

TITLE: Chiral Ru(III) metal complex-catalyzed aerobic enantioselective epoxidation of styrene derivatives with co-oxidation of aldehyde

AUTHOR(S): Kureshy, R. I.; Khan, N. H.; Abdi, S. H. R.; Iyer, P.  
CORPORATE SOURCE: Central Salt and Marine Chemicals Research Institute, Bhavnagar -, 364 002, India

SOURCE: Journal of Molecular Catalysis A: Chemical (1997), 124(2-3), 91-97

CODEN: JMCCF2; ISSN: 1381-1169

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 127:293068

AB Ru(III) chiral Schiff base complexes derived from dehydroacetic acid with 1S,2S-(+)-diaminocyclohexane, 1R,2R-(-)-1,2-diphenylethylenediamine and S-(+)-1,2-diaminopropane have been prepared. The enantioselective epoxidn. of styrene and 4-chloro-, 4-nitro- and 4-methylstyrene was achieved by the combined use of mol. oxygen and sacrificial reductant isobutyraldehyde catalyzed by the above synthesized Ru(III) chiral Schiff base complexes. Good yields of the desired epoxides were obtained with styrene and 4-chlorostyrene by GLC. Enantiomeric excess of the epoxide was evaluated by 1H-NMR using chiral shift reagent Eu(hfc)3 and by chiral capillary column. The extent of enantioselectivity is shown in Hammett plots.

IT 197145-67-8P

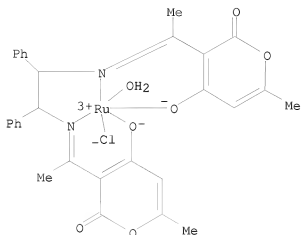
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(chiral ruthenium complex-catalyzed aerobic enantioselective epoxidn. of styrene derivs. with co-oxidation of aldehyde)

RN 197145-67-8 CAPLUS

CN Ruthenium, aquachloro[[3,3'-[(1,2-diphenyl-1,2-ethanediy)]bis[(nitrilo-κN)ethylidene]]bis[4-(hydroxy-κO)-6-methyl-2H-pyran-2-onato]](2-)]-, [OC-6-34-[S-(R\*,R\*)]]- (9CI) (CA INDEX NAME)





REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 42 OF 42 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1988:642931 CAPLUS

DOCUMENT NUMBER: 109:242931

ORIGINAL REFERENCE NO.: 109:39991a,39994a

TITLE: Chiral metal complexes. 26. Metal complexes of the new stereospecific tetraamine ligand 3R,4R- and 3S,4S-diphenyl-1,6-di(2-pyridyl)-2,5-diazahexane  
Fenton, Ronald R.; Vagg, Robert S.; Williams, Peter A.  
CORPORATE SOURCE: Sch. Chem., Macquarie Univ., 2109, Australia  
SOURCE: Inorganica Chimica Acta (1988), 148(1), 37-44  
CODEN: ICHAA3; ISSN: 0020-1693

DOCUMENT TYPE: Journal

LANGUAGE: English

AB (RCH2NHCHPh)2 (R = 2-pyridyl) (picstien), based on stilbenediamine, was prepared in its racemic and enantiomeric forms. R,R-Picstien coordinates to Co(III) to give A-β-[Co(R,R-picstien)Cl2]X.H2O (X = Cl, ClO4) stereospecifically; the complexes were characterized by NMR and chiroptical properties. The chloride donors in this cation undergo substitution by NO2- or C2O42- with full retention of its A-β topol. A Rh(III) analog of the dichloro complex also was isolated, and this has the same stereochem. The S,S antipode of the ligand was used to generate corresponding enantiomeric chelate forms.

IT 117802-85-4P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and NMR and CD of)

RN 117802-85-4 CAPLUS

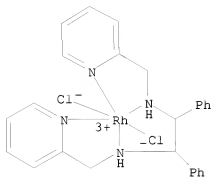
CN Rhodium(1+), dichloro[1,2-diphenyl-N,N'-bis(2-pyridinylmethyl)-1,2-ethanediamine-N,N',N'',N''']-, stereoisomer, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 117802-84-3

CMF C26 H26 Cl2 N4 Rh

CCI CCS



CM 2

CRN 14797-73-0

CMF C1 O4



=> log h

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION

FULL ESTIMATED COST

237.88	522.94
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DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION

CA SUBSCRIBER PRICE

-34.44	-35.26
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SESSION WILL BE HELD FOR 120 MINUTES

STN INTERNATIONAL SESSION SUSPENDED AT 17:42:44 ON 29 JUN 2009